

Pro Leu His Tyr Val Val Ile Met Asn Pro Arg Leu Cys Gln Gln Leu
 130 135 140

Ala Ser Ile Ser Trp Leu Ser Gly Leu Ala Ser Ser Leu Ile His Ala
 145 150 155 160

Thr Phe Thr Leu Gln Leu Pro Leu Cys Gly Asn His Arg Leu Asp His
 165 170 175

Phe Ile Cys Glu Val Pro Ala Leu Leu Lys Leu Ala Cys Val Asp Thr
 180 185 190

Thr Val Asn Glu Leu Val Leu Phe Val Val Ser Val Leu Phe Val Val
 195 200 205

Ile Pro Pro Ala Leu Ile Ser Ile Ser Tyr Gly Phe Ile Thr Gln Ala
 210 215 220

Val Leu Arg Ile Lys Ser Val Glu Ala Arg His Lys Ala Phe Ser Thr
 225 230 235 240

Cys Ser Ser His Leu Thr Val Val Ile Ile Phe Tyr Gly Thr Ile Ile
 245 250 255

Tyr Val Tyr Leu Gln Pro Ser Asp Ser Tyr Ala Gln Asp Gln Gly Lys
 260 265 270

Phe Ile Ser Leu Phe Tyr Thr Met Val Thr Pro Thr Leu Asn Pro Ile
 275 280 285

Ile Tyr Thr Leu Arg Asn Lys Asp Met Lys Glu Ala Leu Arg Lys Leu
 290 295 300

Leu Ser Gly Lys Leu
 305

<210> 327
 <211> 954
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1)..(951)
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<400> 327
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ctt tta ggg ttt tct gat tat cct cag tta cag aag gtt cta ttt gtg	96
Leu Leu Gly Phe Ser Asp Tyr Pro Gln Leu Gln Lys Val Leu Phe Val	
20 25 30	
ctc ata ttg att ctg tat tta cta act att ttg ggg aat acc acc atc	144
Leu Ile Leu Ile Leu Tyr Leu Leu Thr Ile Leu Gly Asn Thr Thr Ile	
35 40 45	
att ctg gtt tct cgt ctg gaa ccc aag ctt cat atg ccg atg tat ttc	192
Ile Leu Val Ser Arg Leu Glu Pro Lys Leu His Met Pro Met Tyr Phe	
50 55 60	
ttc ctt tct cat ctc tcc ttc ctg tac cgc tgc ttc acc agc agt gtt	240
Phe Leu Ser His Leu Ser Phe Leu Tyr Arg Cys Phe Thr Ser Ser Val	
65 70 75 80	
att ccc cag ctc ctg gta aac ctg tgg gaa ccc atg aaa act atc gcc	288
Ile Pro Gln Leu Leu Val Asn Leu Trp Glu Pro Met Lys Thr Ile Ala	
85 90 95	
tat ggt ggc tgt ttg gtt cac ctt tac aac tcc cat gcc ctg gga tcc	336
Tyr Gly Gly Cys Leu Val His Leu Tyr Asn Ser His Ala Leu Gly Ser	
100 105 110	
act gag tgc gtc ctc ccg gct ctg atg tcc tgt gac cgc tat gtg gct	384
Thr Glu Cys Val Leu Pro Ala Leu Met Ser Cys Asp Arg Tyr Val Ala	
115 120 125	
gtc tgc cgt cct ctc cat tac act gtc tta atg cat atc cat ctc tgc	432
Val Cys Arg Pro Leu His Tyr Thr Val Leu Met His Ile His Leu Cys	
130 135 140	
atg gcc ttg gca tct atg gca tgg ctc agt gga ata gcc acc acc ctg	480
Met Ala Leu Ala Ser Met Ala Trp Leu Ser Gly Ile Ala Thr Thr Leu	
145 150 155 160	
gta cag tcc acc ctc acc ctg cag ctg ccc ttc tgt ggg cat cgc caa	528
Val Gln Ser Thr Leu Thr Leu Gln Leu Pro Phe Cys Gly His Arg Gln	
165 170 175	
gtg gat cat ttc atc tgc gag gtc cct gtg ctc atc aag ctg gct tgt	576
Val Asp His Phe Ile Cys Glu Val Pro Val Leu Ile Lys Leu Ala Cys	
180 185 190	
gtg ggc acc acg ttt aac gag gct gag ctt ttt gtg gct agt atc ctt	624
Val Gly Thr Thr Phe Asn Glu Ala Glu Leu Phe Val Ala Ser Ile Leu	
195 200 205	
ttc ctt ata gtg cct gtc tca ttc atc ctg gtc tcc tct ggc tac att	672
Phe Leu Ile Val Pro Val Ser Phe Ile Leu Val Ser Ser Gly Tyr Ile	
210 215 220	
gcc cac gca gtg ttg agg att aag tca gct acc agg aga cag aaa gca	720
Ala His Ala Val Leu Arg Ile Lys Ser Ala Thr Arg Arg Gln Lys Ala	
225 230 235 240	
ttc ggg acc tgc ttc tcc cac ctg aca gtg gtc acc atc ttt tat gga	768
Phe Gly Thr Cys Phe Ser His Leu Thr Val Val Thr Ile Phe Tyr Gly	

245	250	255	
acc atc atc ttc atg tat ctg cag cca gcc aag agt aga tcc agg gac			816
Thr Ile Ile Phe Met Tyr Leu Gln Pro Ala Lys Ser Arg Ser Arg Asp			
260	265	270	
cag ggc aag ttt gtt tct ctc ttc tac act gtg gta acc cgc atg ctt			864
Gln Gly Lys Phe Val Ser Leu Phe Tyr Thr Val Val Thr Arg Met Leu			
275	280	285	
aac cct ctt att tat acc ttg agg atc aag gag gtg aaa ggg gca tta			912
Asn Pro Leu Ile Tyr Thr Leu Arg Ile Lys Glu Val Lys Gly Ala Leu			
290	295	300	
aag aaa gtt cta gca aag gct ctg gga gta aat att tta tga			954
Lys Lys Val Leu Ala Lys Ala Leu Gly Val Asn Ile Leu			
305	310	315	
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<212>	PRT		
<213>	Homo Sapiens		
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Met Gly Met Val Arg His Thr Asn Glu Ser Asn Leu Ala Gly Phe Ile			
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Leu Leu Gly Phe Ser Asp Tyr Pro Gln Leu Gln Lys Val Leu Phe Val			
20	25	30	
Leu Ile Leu Ile Leu Tyr Leu Leu Thr Ile Leu Gly Asn Thr Thr Ile			
35	40	45	
Ile Leu Val Ser Arg Leu Glu Pro Lys Leu His Met Pro Met Tyr Phe			
50	55	60	
Phe Leu Ser His Leu Ser Phe Leu Tyr Arg Cys Phe Thr Ser Ser Val			
65	70	75	80
Ile Pro Gln Leu Leu Val Asn Leu Trp Glu Pro Met Lys Thr Ile Ala			
85	90	95	
Tyr Gly Gly Cys Leu Val His Leu Tyr Asn Ser His Ala Leu Gly Ser			
100	105	110	
Thr Glu Cys Val Leu Pro Ala Leu Met Ser Cys Asp Arg Tyr Val Ala			
115	120	125	
Val Cys Arg Pro Leu His Tyr Thr Val Leu Met His Ile His Leu Cys			
130	135	140	

Met Ala Leu Ala Ser Met Ala Trp Leu Ser Gly Ile Ala Thr Thr Leu
145 150 155 160

Val Gln Ser Thr Leu Thr Leu Gln Leu Pro Phe Cys Gly His Arg Gln
165 170 175

Val Asp His Phe Ile Cys Glu Val Pro Val Leu Ile Lys Leu Ala Cys
180 185 190

Val Gly Thr Thr Phe Asn Glu Ala Glu Leu Phe Val Ala Ser Ile Leu
195 200 205

Phe Leu Ile Val Pro Val Ser Phe Ile Leu Val Ser Ser Gly Tyr Ile
210 215 220

Ala His Ala Val Leu Arg Ile Lys Ser Ala Thr Arg Arg Gln Lys Ala
225 230 235 240

Phe Gly Thr Cys Phe Ser His Leu Thr Val Val Thr Ile Phe Tyr Gly
245 250 255

Thr Ile Ile Phe Met Tyr Leu Gln Pro Ala Lys Ser Arg Ser Arg Asp
260 265 270

Gln Gly Lys Phe Val Ser Leu Phe Tyr Thr Val Val Thr Arg Met Leu
275 280 285

Asn Pro Leu Ile Tyr Thr Leu Arg Ile Lys Glu Val Lys Gly Ala Leu
290 295 300

Lys Lys Val Leu Ala Lys Ala Leu Gly Val Asn Ile Leu
305 310 315

<210> 329

<211> 927

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1) .. (924)

<223>

<400> 329

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Met Asp Thr Gly Asn Lys Thr Leu Pro Gln Asp Phe Leu Leu Leu Gly
1 5 10 15

48

ttt cct ggt tct caa act ctt cag ctc tct ctc ttt atg ctt ttt ctg Phe Pro Gly Ser Gln Thr Leu Gln Leu Ser Leu Phe Met Leu Phe Leu 20 25 30	96
gtg atg tac atc ctc aca gtt agt ggt aat gtg gct atc ttg atg ttg Val Met Tyr Ile Leu Thr Val Ser Gly Asn Val Ala Ile Leu Met Leu 35 40 45	144
gtg agc acc tcc cat cag ttg cat acc ccc atg tac ttc ttt ctg agc Val Ser Thr Ser His Gln Leu His Thr Pro Met Tyr Phe Phe Leu Ser 50 55 60	192
aac ctc tcc ttc ctg gag att tgg tat acc aca gca gca gtg ccc aaa Asn Leu Ser Phe Leu Glu Ile Trp Tyr Thr Thr Ala Ala Val Pro Lys 65 70 75 80	240
gca ctg gcc atc cta ctg ggg aga agt cag acc ata tca ttt aca agc Ala Leu Ala Ile Leu Leu Gly Arg Ser Gln Thr Ile Ser Phe Thr Ser 85 90 95	288
tgt ctt ttg cag atg tac ttt gtt ttc tca tta ggc tgc aca gag tac Cys Leu Leu Gln Met Tyr Phe Val Phe Ser Leu Gly Cys Thr Glu Tyr 100 105 110	336
ttc ctc ctg gca gcc atg gct tat gac cgc tgt ctt gcc atc tgc tat Phe Leu Leu Ala Ala Met Ala Tyr Asp Arg Cys Leu Ala Ile Cys Tyr 115 120 125	384
cct tta cac tac gga gcc atc atg agt agc ctg ctc tca gcg cag ctg Pro Leu His Tyr Gly Ala Ile Met Ser Ser Leu Leu Ser Ala Gln Leu 130 135 140	432
gcc ctg ggc tcc tgg gtg tgt ggt ttc gtg gcc att gca gtg ccc aca Ala Leu Gly Ser Trp Val Cys Gly Phe Val Ala Ile Ala Val Pro Thr 145 150 155 160	480
gcc ctc atc agt ggc ctg tcc ttc tgt ggc ccc cgt gcc atc aac cac Ala Leu Ile Ser Gly Leu Ser Phe Cys Gly Pro Arg Ala Ile Asn His 165 170 175	528
ttc ttc tgt gac att gca ccc tgg att gcc ctg gcc tgc acc aac aca Phe Phe Cys Asp Ile Ala Pro Trp Ile Ala Leu Ala Cys Thr Asn Thr 180 185 190	576
cag gca gta gag ctt gtg gcc ttt gtg att gct gtt gtg gtt atc ctg Gln Ala Val Glu Leu Val Ala Phe Val Ile Ala Val Val Val Ile Leu 195 200 205	624
agt tca tgc ctc atc acc ttt gtc tcc tat gtg tac atc atc agc acc Ser Ser Cys Leu Ile Thr Phe Val Ser Tyr Val Tyr Ile Ile Ser Thr 210 215 220	672
atc ctc agg atc ccc tct gcc agt ggc cgg agc aaa gcc ttc tcc acg Ile Leu Arg Ile Pro Ser Ala Ser Gly Arg Ser Lys Ala Phe Ser Thr 225 230 235 240	720
tgc tcc tcg cat ctc acc gtg gtg ctc att tgg tat ggg tcc aca gtt Cys Ser Ser His Leu Thr Val Val Leu Ile Trp Tyr Gly Ser Thr Val 245 250 255	768
ttc ctt cac gtc cgc acc tct atc aaa gat gcc ttg gat ctg atc aaa	816

Phe Leu His Val Arg Thr Ser Ile Lys Asp Ala Leu Asp Leu Ile Lys
 260 265 270

gct gtc cac gtc ctg aac act gtg gtg act cca gtt tta aac ccc ttc 864
 Ala Val His Val Leu Asn Thr Val Val Thr Pro Val Leu Asn Pro Phe
 275 280 285

atc tat acg ctt cgt aat aag gaa gta aga gag act ctg ctg aag aaa 912
 Ile Tyr Thr Leu Arg Asn Lys Glu Val Arg Glu Thr Leu Leu Lys Lys
 290 295 300

tgg aag gga aaa taa 927
 Trp Lys Gly Lys
 305

<210> 330
 <211> 308
 <212> PRT
 <213> Homo Sapiens

<400> 330

Met Asp Thr Gly Asn Lys Thr Leu Pro Gln Asp Phe Leu Leu Leu Gly
 1 5 10 15

Phe Pro Gly Ser Gln Thr Leu Gln Leu Ser Leu Phe Met Leu Phe Leu
 20 25 30

Val Met Tyr Ile Leu Thr Val Ser Gly Asn Val Ala Ile Leu Met Leu
 35 40 45

Val Ser Thr Ser His Gln Leu His Thr Pro Met Tyr Phe Phe Leu Ser
 50 55 60

Asn Leu Ser Phe Leu Glu Ile Trp Tyr Thr Thr Ala Ala Val Pro Lys
 65 70 75 80

Ala Leu Ala Ile Leu Leu Gly Arg Ser Gln Thr Ile Ser Phe Thr Ser
 85 90 95

Cys Leu Leu Gln Met Tyr Phe Val Phe Ser Leu Gly Cys Thr Glu Tyr
 100 105 110

Phe Leu Leu Ala Ala Met Ala Tyr Asp Arg Cys Leu Ala Ile Cys Tyr
 115 120 125

Pro Leu His Tyr Gly Ala Ile Met Ser Ser Leu Leu Ser Ala Gln Leu
 130 135 140

Ala Leu Gly Ser Trp Val Cys Gly Phe Val Ala Ile Ala Val Pro Thr
 145 150 155 160

Ala Leu Ile Ser Gly Leu Ser Phe Cys Gly Pro Arg Ala Ile Asn His
 165 170 175

Phe Phe Cys Asp Ile Ala Pro Trp Ile Ala Leu Ala Cys Thr Asn Thr
 180 185 190

Gln Ala Val Glu Leu Val Ala Phe Val Ile Ala Val Val Val Ile Leu
 195 200 205

Ser Ser Cys Leu Ile Thr Phe Val Ser Tyr Val Tyr Ile Ile Ser Thr
 210 215 220

Ile Leu Arg Ile Pro Ser Ala Ser Gly Arg Ser Lys Ala Phe Ser Thr
 225 230 235 240

Cys Ser Ser His Leu Thr Val Val Leu Ile Trp Tyr Gly Ser Thr Val
 245 250 255

Phe Leu His Val Arg Thr Ser Ile Lys Asp Ala Leu Asp Leu Ile Lys
 260 265 270

Ala Val His Val Leu Asn Thr Val Val Thr Pro Val Leu Asn Pro Phe
 275 280 285

Ile Tyr Thr Leu Arg Asn Lys Glu Val Arg Glu Thr Leu Leu Lys Lys
 290 295 300

Trp Lys Gly Lys
 305

<210> 331
 <211> 957
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<220>
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 <222> (1) .. (954)
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<400> 331
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 Met Glu Glu Tyr Asn Thr Ser Ser Thr Asp Phe Thr Phe Met Gly Leu
 1 5 10 15
 ttc aac aga aag gaa acc tca ggt ctt att ttt gcc atc atc tct atc 96
 Phe Asn Arg Lys Glu Thr Ser Gly Leu Ile Phe Ala Ile Ile Ser Ile
 20 25 30

atc ttc ttc acc gca ctg atg gcc aat ggg gtt atg atc ttc ctg atc Ile Phe Phe Thr Ala Leu Met Ala Asn Gly Val Met Ile Phe Leu Ile 35 40 45	144
caa aca gat ttg cgc ctt cat aca ccc atg tac ttc ctc ctc agc cac Gln Thr Asp Leu Arg Leu His Thr Pro Met Tyr Phe Leu Leu Ser His 50 55 60	192
ctt tcc tta att gac atg atg tat att tcc act att gtg cct aag atg Leu Ser Leu Ile Asp Met Met Tyr Ile Ser Thr Ile Val Pro Lys Met 65 70 75 80	240
ctg gtt aat tac ctg ctg gat caa agg acc att tcc ttt gtg ggg tgc Leu Val Asn Tyr Leu Leu Asp Gln Arg Thr Ile Ser Phe Val Gly Cys 85 90 95	288
aca gct caa cac ttc ctc tac ctt acc ctt gtg gga gct gaa ttc ttc Thr Ala Gln His Phe Leu Tyr Leu Thr Leu Val Gly Ala Glu Phe Phe 100 105 110	336
ctg ctg ggc ctc atg gcc tat gac cgc tat gtg gcc att tgc aac cct Leu Leu Gly Leu Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn Pro 115 120 125	384
ctg aga tac cct gtc ctc atg agc cgc cgg gtc tgt tgg atg att ata Leu Arg Tyr Pro Val Leu Met Ser Arg Arg Val Cys Trp Met Ile Ile 130 135 140	432
gca ggt tcc tgg ttt ggg ggc tct ttg gat ggc ttc ctc cta acc ccc Ala Gly Ser Trp Phe Gly Gly Ser Leu Asp Gly Phe Leu Leu Thr Pro 145 150 155 160	480
atc acc atg agc ttt ccc ttc tgc aat tcc cgg gag att aac cac ttc Ile Thr Met Ser Phe Pro Phe Cys Asn Ser Arg Glu Ile Asn His Phe 165 170 175	528
ttc tgt gag gca cca gca gtc ctg aag ttg gca tgt gca gac aca gcc Phe Cys Glu Ala Pro Ala Val Leu Lys Leu Ala Cys Ala Asp Thr Ala 180 185 190	576
ctc tac gag aca gtg atg tat gtg tgc tgt gtt ttg atg ctg ctg att Leu Tyr Glu Thr Val Met Tyr Val Cys Cys Val Leu Met Leu Leu Ile 195 200 205	624
cct ttc tct gta gtc ctt gct tcc tat gcc cga atc ctg act aca gtt Pro Phe Ser Val Val Leu Ala Ser Tyr Ala Arg Ile Leu Thr Thr Val 210 215 220	672
cag tgc atg agc tca gtg gag ggc agg aag aag gca ttt gcc act tgc Gln Cys Met Ser Ser Val Glu Gly Arg Lys Lys Ala Phe Ala Thr Cys 225 230 235 240	720
tca tcc cac atg act gtg gtg tcc ttg ttc tac ggg gct gcc atg tac Ser Ser His Met Thr Val Val Ser Leu Phe Tyr Gly Ala Ala Met Tyr 245 250 255	768
acc tac atg ctg cca cat tct tac cac aag cca gcc cag gac aaa gtc Thr Tyr Met Leu Pro His Ser Tyr His Lys Pro Ala Gln Asp Lys Val 260 265 270	816

ctc tct gtg ttt tac acc att ctc aca ccc atg ctg aac ccc ctc atc 864
 Leu Ser Val Phe Tyr Thr Ile Leu Thr Pro Met Leu Asn Pro Leu Ile
 275 280 285

tac agc ctt aga aac aag gat gtg act gga gct ctg aag agg gcc ttg 912
 Tyr Ser Leu Arg Asn Lys Asp Val Thr Gly Ala Leu Lys Arg Ala Leu
 290 295 300

ggg agg ttc aag ggt cct caa agg gtg tca gga ggt gtc ttt tga 957
 Gly Arg Phe Lys Gly Pro Gln Arg Val Ser Gly Gly Val Phe
 305 310 315

<210> 332
 <211> 318
 <212> PRT
 <213> Homo Sapiens

<400> 332

Met Glu Glu Tyr Asn Thr Ser Ser Thr Asp Phe Thr Phe Met Gly Leu
 1 5 10 15

Phe Asn Arg Lys Glu Thr Ser Gly Leu Ile Phe Ala Ile Ile Ser Ile
 20 25 30

Ile Phe Phe Thr Ala Leu Met Ala Asn Gly Val Met Ile Phe Leu Ile
 35 40 45

Gln Thr Asp Leu Arg Leu His Thr Pro Met Tyr Phe Leu Leu Ser His
 50 55 60

Leu Ser Leu Ile Asp Met Met Tyr Ile Ser Thr Ile Val Pro Lys Met
 65 70 75 80

Leu Val Asn Tyr Leu Leu Asp Gln Arg Thr Ile Ser Phe Val Gly Cys
 85 90 95

Thr Ala Gln His Phe Leu Tyr Leu Thr Leu Val Gly Ala Glu Phe Phe
 100 105 110

Leu Leu Gly Leu Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn Pro
 115 120 125

Leu Arg Tyr Pro Val Leu Met Ser Arg Arg Val Cys Trp Met Ile Ile
 130 135 140

Ala Gly Ser Trp Phe Gly Gly Ser Leu Asp Gly Phe Leu Leu Thr Pro
 145 150 155 160

Ile Thr Met Ser Phe Pro Phe Cys Asn Ser Arg Glu Ile Asn His Phe

165

170

175

Phe Cys Glu Ala Pro Ala Val Leu Lys Leu Ala Cys Ala Asp Thr Ala
180 185 190

Leu Tyr Glu Thr Val Met Tyr Val Cys Cys Val Leu Met Leu Leu Ile
195 200 205

Pro Phe Ser Val Val Leu Ala Ser Tyr Ala Arg Ile Leu Thr Thr Val
210 215 220

Gln Cys Met Ser Ser Val Glu Gly Arg Lys Lys Ala Phe Ala Thr Cys
225 230 235 240

Ser Ser His Met Thr Val Val Ser Leu Phe Tyr Gly Ala Ala Met Tyr
245 250 255

Thr Tyr Met Leu Pro His Ser Tyr His Lys Pro Ala Gln Asp Lys Val
260 265 270

Leu Ser Val Phe Tyr Thr Ile Leu Thr Pro Met Leu Asn Pro Leu Ile
275 280 285

Tyr Ser Leu Arg Asn Lys Asp Val Thr Gly Ala Leu Lys Arg Ala Leu
290 295 300

Gly Arg Phe Lys Gly Pro Gln Arg Val Ser Gly Gly Val Phe
305 310 315

<210> 333
<211> 975
<212> DNA
<213> Homo Sapiens

<220>
<221> CDS
<222> (1) .. (972)
<223>

<400> 333
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ggc ctc atc acc cat cct gcc ttc ccc ggg ctt ctc ttt gca ata gtc 96
Gly Leu Ile Thr His Pro Ala Phe Pro Gly Leu Leu Phe Ala Ile Val
20 25 30
ttc tcc atc ttt gtg gtg gct ata aca gcc aac ttg gtc atg att ctg 144
Phe Ser Ile Phe Val Val Ala Ile Thr Ala Asn Leu Val Met Ile Leu

35	40	45	
ctc atc cac atg gac tcc cgc ctc cac aca ccc atg tac ttc ttg ctc Leu Ile His Met Asp Ser Arg Leu His Thr Pro Met Tyr Phe Leu Leu 50 55 60			192
agc cag ctc tcc atc atg gat acc atc tac atc tgt atc act gtc ccc Ser Gln Leu Ser Ile Met Asp Thr Ile Tyr Ile Cys Ile Thr Val Pro 65 70 75 80			240
aag atg ctc cag gac ctc ctg tcc aag gac aag acc att tcc ttc ctg Lys Met Leu Gln Asp Leu Leu Ser Lys Asp Lys Thr Ile Ser Phe Leu 85 90 95			288
ggc tgt gca gtt cag atc ttc ctc tac ctg acc ctg att gga ggg gaa Gly Cys Ala Val Gln Ile Phe Leu Tyr Leu Thr Leu Ile Gly Gly Glu 100 105 110			336
ttc ttc ctg ctg ggt ctc atg gcc tat gac cgc tat gtg gct gtg tgc Phe Phe Leu Leu Gly Leu Met Ala Tyr Asp Arg Tyr Val Ala Val Cys 115 120 125			384
aac cct cta cgg tac cct ctc ctc atg aac cgc agg gtt tgc tta ttc Asn Pro Leu Arg Tyr Pro Leu Leu Met Asn Arg Val Cys Leu Phe 130 135 140			432
atg gtg gtc ggc tcc tgg gtt ggt ggt tcc ttg gat ggg ttc atg ctg Met Val Val Gly Ser Trp Val Gly Gly Ser Leu Asp Gly Phe Met Leu 145 150 155 160			480
act cct gtc act atg agt ttc ccc ttc tgt aga tcc cga gag atc aat Thr Pro Val Thr Met Ser Phe Pro Phe Cys Arg Ser Arg Glu Ile Asn 165 170 175			528
cac ttt ttc tgt gag atc cca gcc gtg ctg aag ttg tct tgc aca gac His Phe Phe Cys Glu Ile Pro Ala Val Leu Lys Leu Ser Cys Thr Asp 180 185 190			576
acg tca ctc tat gag acc ctg atg tat gcc tgc tgc gtg ctg atg ctg Thr Ser Leu Tyr Glu Thr Leu Met Tyr Ala Cys Cys Val Leu Met Leu 195 200 205			624
ctt atc cct cta tct gtc atc tct gtc tcc tac acg cac atc ctc ctg Leu Ile Pro Leu Ser Val Ile Ser Val Ser Tyr Thr His Ile Leu Leu 210 215 220			672
act gtc cac agg atg aac tct gct gag ggc cgg cgc aaa gcc ttt gct Thr Val His Arg Met Asn Ser Ala Glu Gly Arg Arg Lys Ala Phe Ala 225 230 235 240			720
acg tgt tcc tcc cac att atg gtg gtg agc gtt ttc tac ggg gca gcc Thr Cys Ser Ser His Ile Met Val Val Ser Val Phe Tyr Gly Ala Ala 245 250 255			768
ttc tac acc aac gtg ctg ccc cac tcc tac cac act cca gag aaa gat Phe Tyr Thr Asn Val Leu Pro His Ser Tyr His Thr Pro Glu Lys Asp 260 265 270			816
aaa gtg gtg tct gcc ttc tac acc atc ctc acc ccc atg ctc aac cca Lys Val Val Ser Ala Phe Tyr Thr Ile Leu Thr Pro Met Leu Asn Pro 275 280 285			864

ctc atc tac agc ttg agg aat aaa gat gtg gct gca gct ctg agg aaa 912
 Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Ala Ala Ala Leu Arg Lys
 290 295 300

gta cta ggg aga tgt ggt tcc tcc cag agc atc agg gtg gcg act gtg 960
 Val Leu Gly Arg Cys Gly Ser Ser Gln Ser Ile Arg Val Ala Thr Val
 305 310 315 320

atc agg aag ggc tag 975
 Ile Arg Lys Gly

<210> 334
 <211> 324
 <212> PRT
 <213> Homo Sapiens

<400> 334

Met Gly Met Glu Gly Leu Leu Gln Asn Ser Thr Asn Phe Val Leu Thr
 1 5 10 15

Gly Leu Ile Thr His Pro Ala Phe Pro Gly Leu Leu Phe Ala Ile Val
 20 25 30

Phe Ser Ile Phe Val Val Ala Ile Thr Ala Asn Leu Val Met Ile Leu
 35 40 45

Leu Ile His Met Asp Ser Arg Leu His Thr Pro Met Tyr Phe Leu Leu
 50 55 60

Ser Gln Leu Ser Ile Met Asp Thr Ile Tyr Ile Cys Ile Thr Val Pro
 65 70 75 80

Lys Met Leu Gln Asp Leu Leu Ser Lys Asp Lys Thr Ile Ser Phe Leu
 85 90 95

Gly Cys Ala Val Gln Ile Phe Leu Tyr Leu Thr Leu Ile Gly Gly Glu
 100 105 110

Phe Phe Leu Leu Gly Leu Met Ala Tyr Asp Arg Tyr Val Ala Val Cys
 115 120 125

Asn Pro Leu Arg Tyr Pro Leu Leu Met Asn Arg Arg Val Cys Leu Phe
 130 135 140

Met Val Val Gly Ser Trp Val Gly Gly Ser Leu Asp Gly Phe Met Leu
 145 150 155 160

Thr Pro Val Thr Met Ser Phe Pro Phe Cys Arg Ser Arg Glu Ile Asn
 165 170 175

His Phe Phe Cys Glu Ile Pro Ala Val Leu Lys Leu Ser Cys Thr Asp
 180 185 190

Thr Ser Leu Tyr Glu Thr Leu Met Tyr Ala Cys Cys Val Leu Met Leu
 195 200 205

Leu Ile Pro Leu Ser Val Ile Ser Val Ser Tyr Thr His Ile Leu Leu
 210 215 220

Thr Val His Arg Met Asn Ser Ala Glu Gly Arg Arg Lys Ala Phe Ala
 225 230 235 240

Thr Cys Ser Ser His Ile Met Val Val Ser Val Phe Tyr Gly Ala Ala
 245 250 255

Phe Tyr Thr Asn Val Leu Pro His Ser Tyr His Thr Pro Glu Lys Asp
 260 265 270

Lys Val Val Ser Ala Phe Tyr Thr Ile Leu Thr Pro Met Leu Asn Pro
 275 280 285

Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Ala Ala Ala Leu Arg Lys
 290 295 300

Val Leu Gly Arg Cys Gly Ser Ser Gln Ser Ile Arg Val Ala Thr Val
 305 310 315 320

Ile Arg Lys Gly

<210> 335
 <211> 948
 <212> DNA
 <213> Homo Sapiens

<220>
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 <222> (1) .. (945)
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<400> 335
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 1 5 10 15
 atc ctc atg gga ctc ttc aga cga tcc aaa cat cca gct cta ctt agt 96

Ile	Leu	Met	Gly	Leu	Phe	Arg	Arg	Ser	Lys	His	Pro	Ala	Leu	Leu	Ser		
			20					25					30				
gtg	gtc	atc	ttt	gtg	gtt	ttc	ctg	aag	gcg	ttg	tct	gga	aat	gct	gtc	144	
Val	Val	Ile	Phe	Val	Val	Phe	Leu	Lys	Ala	Leu	Ser	Gly	Asn	Ala	Val		
		35					40					45					
ctg	atc	ctt	ctg	ata	cac	tgt	gac	gcc	cac	ctc	cac	agc	ccc	atg	tac	192	
Leu	Ile	Leu	Leu	Ile	His	Cys	Asp	Ala	His	Leu	His	Ser	Pro	Met	Tyr		
	50					55					60						
ttt	ttc	atc	agt	caa	ttg	tct	ctc	atg	gac	atg	gcg	tac	att	tct	gtc	240	
Phe	Phe	Ile	Ser	Gln	Leu	Ser	Leu	Met	Asp	Met	Ala	Tyr	Ile	Ser	Val		
65					70				75					80			
act	gtg	ccc	aag	atg	ctc	ctg	gac	cag	gtc	atg	ggg	gtg	aat	aag	gtc	288	
Thr	Val	Pro	Lys	Met	Leu	Leu	Asp	Gln	Val	Met	Gly	Val	Asn	Lys	Val		
				85					90					95			
tca	gcc	cct	gag	tgt	ggg	atg	cag	atg	ttc	ctc	tat	ctg	aca	cta	gca	336	
Ser	Ala	Pro	Glu	Cys	Gly	Met	Gln	Met	Phe	Leu	Tyr	Leu	Thr	Leu	Ala		
			100					105					110				
ggg	tcg	gaa	ttt	ttc	ctt	cta	gcc	acc	atg	gcc	tat	gac	cgc	tac	gtg	384	
Gly	Ser	Glu	Phe	Phe	Leu	Leu	Ala	Thr	Met	Ala	Tyr	Asp	Arg	Tyr	Val		
		115					120					125					
gcc	atc	tgc	cat	cct	ctc	cgt	tac	cct	gtc	ctc	atg	aac	cat	agg	gtc	432	
Ala	Ile	Cys	His	Pro	Leu	Arg	Tyr	Pro	Val	Leu	Met	Asn	His	Arg	Val		
	130					135					140						
tgt	ctt	ttc	ctg	gca	tcg	ggc	tgc	tgg	ttc	ctg	ggc	tca	gtg	gat	ggc	480	
Cys	Leu	Phe	Leu	Ala	Ser	Gly	Cys	Trp	Phe	Leu	Gly	Ser	Val	Asp	Gly		
145					150					155				160			
ttc	atg	ctc	act	ccc	atc	acc	atg	agc	ttc	ccc	ttc	tgc	aga	tcc	tgg	528	
Phe	Met	Leu	Thr	Pro	Ile	Thr	Met	Ser	Phe	Pro	Phe	Cys	Arg	Ser	Trp		
				165					170					175			
gag	att	cat	cat	ttc	ttc	tgt	gaa	gtc	cct	gct	gta	acg	atc	ctg	tcc	576	
Glu	Ile	His	His	Phe	Phe	Cys	Glu	Val	Pro	Ala	Val	Thr	Ile	Leu	Ser		
			180					185					190				
tgc	tca	gac	acc	tca	ctc	tat	gag	acc	ctc	atg	tac	cta	tgc	tgt	gtc	624	
Cys	Ser	Asp	Thr	Ser	Leu	Tyr	Glu	Thr	Leu	Met	Tyr	Leu	Cys	Cys	Val		
		195					200					205					
ctc	atg	ctc	ctc	atc	cct	gtg	acg	atc	att	tca	agc	tcc	tat	tta	ctc	672	
Leu	Met	Leu	Leu	Ile	Pro	Val	Thr	Ile	Ile	Ser	Ser	Ser	Tyr	Leu	Leu		
	210					215					220						
atc	ctc	ctc	acc	gtc	cac	agg	atg	aac	tca	gca	gag	ggc	cgg	aaa	aag	720	
Ile	Leu	Leu	Thr	Val	His	Arg	Met	Asn	Ser	Ala	Glu	Gly	Arg	Lys	Lys		
225					230					235				240			
gcc	ttt	gcc	acc	tgc	tcc	tcc	cac	ctg	act	gtg	gtc	atc	ctc	ttc	tat	768	
Ala	Phe	Ala	Thr	Cys	Ser	Ser	His	Leu	Thr	Val	Val	Ile	Leu	Phe	Tyr		
				245				250					255				
ggg	gct	gcc	gtc	tac	acc	tac	atg	ctc	ccc	agc	tcc	tac	cac	acc	cct	816	
Gly	Ala	Ala	Val	Tyr	Thr	Tyr	Met	Leu	Pro	Ser	Ser	Tyr	His	Thr	Pro		

260	265	270	
gag aag gac atg atg gta tct gtc ttc tat acc atc ctc act ccg gtg			864
Glu Lys Asp Met Met Val Ser Val Phe Tyr Thr Ile Leu Thr Pro Val			
275	280	285	
ctg aac cct tta atc tat agt ctt agg aat aag gat gtc atg ggg gct			912
Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Met Gly Ala			
290	295	300	
ctg aag aaa atg tta act gtg aga ttc gtc ctt tag			948
Leu Lys Lys Met Leu Thr Val Arg Phe Val Leu			
305	310	315	
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<213> Homo Sapiens			
<400> 336			
Met Ala Asn Ile Thr Arg Met Ala Asn His Thr Gly Lys Leu Asp Phe			
1	5	10	15
Ile Leu Met Gly Leu Phe Arg Arg Ser Lys His Pro Ala Leu Leu Ser			
20	25	30	
Val Val Ile Phe Val Val Phe Leu Lys Ala Leu Ser Gly Asn Ala Val			
35	40	45	
Leu Ile Leu Leu Ile His Cys Asp Ala His Leu His Ser Pro Met Tyr			
50	55	60	
Phe Phe Ile Ser Gln Leu Ser Leu Met Asp Met Ala Tyr Ile Ser Val			
65	70	75	80
Thr Val Pro Lys Met Leu Leu Asp Gln Val Met Gly Val Asn Lys Val			
85	90	95	
Ser Ala Pro Glu Cys Gly Met Gln Met Phe Leu Tyr Leu Thr Leu Ala			
100	105	110	
Gly Ser Glu Phe Phe Leu Leu Ala Thr Met Ala Tyr Asp Arg Tyr Val			
115	120	125	
Ala Ile Cys His Pro Leu Arg Tyr Pro Val Leu Met Asn His Arg Val			
130	135	140	
Cys Leu Phe Leu Ala Ser Gly Cys Trp Phe Leu Gly Ser Val Asp Gly			
145	150	155	160

Phe Met Leu Thr Pro Ile Thr Met Ser Phe Pro Phe Cys Arg Ser Trp
 165 170 175

Glu Ile His His Phe Phe Cys Glu Val Pro Ala Val Thr Ile Leu Ser
 180 185 190

Cys Ser Asp Thr Ser Leu Tyr Glu Thr Leu Met Tyr Leu Cys Cys Val
 195 200 205

Leu Met Leu Leu Ile Pro Val Thr Ile Ile Ser Ser Ser Tyr Leu Leu
 210 215 220

Ile Leu Leu Thr Val His Arg Met Asn Ser Ala Glu Gly Arg Lys Lys
 225 230 235 240

Ala Phe Ala Thr Cys Ser Ser His Leu Thr Val Val Ile Leu Phe Tyr
 245 250 255

Gly Ala Ala Val Tyr Thr Tyr Met Leu Pro Ser Ser Tyr His Thr Pro
 260 265 270

Glu Lys Asp Met Met Val Ser Val Phe Tyr Thr Ile Leu Thr Pro Val
 275 280 285

Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Met Gly Ala
 290 295 300

Leu Lys Lys Met Leu Thr Val Arg Phe Val Leu
 305 310 315

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 <211> 993
 <212> DNA
 <213> Homo Sapiens

<220>
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 <222> (1)..(990)
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 Met Gly Leu Phe Arg Gln Ser Lys His Pro Met Ala Asn Ile Thr Trp
 1 5 10 15

atg gcc aac cac act gga tgg tcg gat ttc atc ctg ttg gga ctc ttc 96
 Met Ala Asn His Thr Gly Trp Ser Asp Phe Ile Leu Leu Gly Leu Phe
 20 25 30

aga caa tcc aaa cat cca gca cta ctt tgt gtg gtc att ttt gtg gtt	144
Arg Gln Ser Lys His Pro Ala Leu Leu Cys Val Val Ile Phe Val Val	
35 40 45	
ttc ctg atg gcg ttg tct gga aat gct gtc ctg atc ctt ctg ata cac	192
Phe Leu Met Ala Leu Ser Gly Asn Ala Val Leu Ile Leu Leu Ile His	
50 55 60	
tgt gac gcc cac ctc cac acc ccc atg tac ttt ttc atc agt caa ttg	240
Cys Asp Ala His Leu His Thr Pro Met Tyr Phe Phe Ile Ser Gln Leu	
65 70 75 80	
tct ctc atg gac atg gcg tac att tct gtc act gtg ccc aag atg ctc	288
Ser Leu Met Asp Met Ala Tyr Ile Ser Val Thr Val Pro Lys Met Leu	
85 90 95	
ctg gac cag gtc atg ggt gtg aat aag atc tca gcc cct gag tgt ggg	336
Leu Asp Gln Val Met Gly Val Asn Lys Ile Ser Ala Pro Glu Cys Gly	
100 105 110	
atg cag atg ttc ttc tac gtg aca cta gca ggt tca gaa ttt ttc ctt	384
Met Gln Met Phe Phe Tyr Val Thr Leu Ala Gly Ser Glu Phe Phe Leu	
115 120 125	
cta gcc acc atg gcc tat gac cgc tac gtg gcc atc tgc cat cct ctc	432
Leu Ala Thr Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His Pro Leu	
130 135 140	
cgt tac cct gtc ctc atg aac cat agg gtg tgt ctc ttc ctg tca tca	480
Arg Tyr Pro Val Leu Met Asn His Arg Val Cys Leu Phe Leu Ser Ser	
145 150 155 160	
ggc tgc tgg ttc ctg ggc tca gtg gat ggc ttc aca ttc act ccc atc	528
Gly Cys Trp Phe Leu Gly Ser Val Asp Gly Phe Thr Phe Thr Pro Ile	
165 170 175	
acc atg acc ttc ccc ttc cgt gga tcc cgg gag att cat cat ttc ttc	576
Thr Met Thr Phe Pro Phe Arg Gly Ser Arg Glu Ile His His Phe Phe	
180 185 190	
tgt gaa gtt cct gct gta ttg aat ctc tcc tgc tca gac acc tca ctc	624
Cys Glu Val Pro Ala Val Leu Asn Leu Ser Cys Ser Asp Thr Ser Leu	
195 200 205	
tat gag att ttc atg tac ttg tgc tgt gtc ctc atg ctc ctc atc cct	672
Tyr Glu Ile Phe Met Tyr Leu Cys Cys Val Leu Met Leu Leu Ile Pro	
210 215 220	
gtg gtg atc att tca agc tcc tat tta ctc atc ctc ctc acc atc cac	720
Val Val Ile Ile Ser Ser Ser Tyr Leu Leu Ile Leu Leu Thr Ile His	
225 230 235 240	
ggg atg aac tca gca gag ggc cgg aaa aag gcc ttt gcc acc tgc tcc	768
Gly Met Asn Ser Ala Glu Gly Arg Lys Lys Ala Phe Ala Thr Cys Ser	
245 250 255	
tcc cac ctg act gtg gtc atc ctc ttc tat ggg gct gcc atc tac acc	816
Ser His Leu Thr Val Val Ile Leu Phe Tyr Gly Ala Ala Ile Tyr Thr	
260 265 270	
tac atg ctc ccc agc tcc tac cac acc cct gag aag gac atg atg gta	864

Tyr Met Leu Pro Ser Ser Tyr His Thr Pro Glu Lys Asp Met Met Val
 275 280 285
 tct gtc ttc tat acc atc ctc act cca gtg gtg aac cct tta atc tat 912
 Ser Val Phe Tyr Thr Ile Leu Thr Pro Val Val Asn Pro Leu Ile Tyr
 290 295 300
 agt ctt agg aat aag gat gtc atg ggg gct ctg aag aaa atg tta aca 960
 Ser Leu Arg Asn Lys Asp Val Met Gly Ala Leu Lys Lys Met Leu Thr
 305 310 315 320
 gtg gaa cct gcc ttt caa aaa gct atg gag tag 993
 Val Glu Pro Ala Phe Gln Lys Ala Met Glu
 325 330
 <210> 338
 <211> 330
 <212> PRT
 <213> Homo Sapiens
 <400> 338
 Met Gly Leu Phe Arg Gln Ser Lys His Pro Met Ala Asn Ile Thr Trp
 1 5 10 15
 Met Ala Asn His Thr Gly Trp Ser Asp Phe Ile Leu Leu Gly Leu Phe
 20 25 30
 Arg Gln Ser Lys His Pro Ala Leu Leu Cys Val Val Ile Phe Val Val
 35 40 45
 Phe Leu Met Ala Leu Ser Gly Asn Ala Val Leu Ile Leu Leu Ile His
 50 55 60
 Cys Asp Ala His Leu His Thr Pro Met Tyr Phe Phe Ile Ser Gln Leu
 65 70 75 80
 Ser Leu Met Asp Met Ala Tyr Ile Ser Val Thr Val Pro Lys Met Leu
 85 90 95
 Leu Asp Gln Val Met Gly Val Asn Lys Ile Ser Ala Pro Glu Cys Gly
 100 105 110
 Met Gln Met Phe Phe Tyr Val Thr Leu Ala Gly Ser Glu Phe Phe Leu
 115 120 125
 Leu Ala Thr Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His Pro Leu
 130 135 140
 Arg Tyr Pro Val Leu Met Asn His Arg Val Cys Leu Phe Leu Ser Ser
 145 150 155 160

Gly Cys Trp Phe Leu Gly Ser Val Asp Gly Phe Thr Phe Thr Pro Ile
 165 170 175
 Thr Met Thr Phe Pro Phe Arg Gly Ser Arg Glu Ile His His Phe Phe
 180 185 190
 Cys Glu Val Pro Ala Val Leu Asn Leu Ser Cys Ser Asp Thr Ser Leu
 195 200 205
 Tyr Glu Ile Phe Met Tyr Leu Cys Cys Val Leu Met Leu Leu Ile Pro
 210 215 220
 Val Val Ile Ile Ser Ser Ser Tyr Leu Leu Ile Leu Leu Thr Ile His
 225 230 235 240
 Gly Met Asn Ser Ala Glu Gly Arg Lys Lys Ala Phe Ala Thr Cys Ser
 245 250 255
 Ser His Leu Thr Val Val Ile Leu Phe Tyr Gly Ala Ala Ile Tyr Thr
 260 265 270
 Tyr Met Leu Pro Ser Ser Tyr His Thr Pro Glu Lys Asp Met Met Val
 275 280 285
 Ser Val Phe Tyr Thr Ile Leu Thr Pro Val Val Asn Pro Leu Ile Tyr
 290 295 300
 Ser Leu Arg Asn Lys Asp Val Met Gly Ala Leu Lys Lys Met Leu Thr
 305 310 315 320
 Val Glu Pro Ala Phe Gln Lys Ala Met Glu
 325 330

<210> 339
 <211> 940
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1)..(939)
 <223>

<400> 339
 atg tgc tca ggg aat cag act tct cag aat caa aca gca agc act gat
 Met Cys Ser Gly Asn Gln Thr Ser Gln Asn Gln Thr Ala Ser Thr Asp
 1 5 10 15

48

ttc acc ctc acg gga ctc ttt gct gag agc aag cat gct gcc ctc ctc Phe Thr Leu Thr Gly Leu Phe Ala Glu Ser Lys His Ala Ala Leu Leu 20 25 30	96
tac acc gtg acc ttc ctt ctt ttc ttg atg gcc ctc act ggg aat gcc Tyr Thr Val Thr Phe Leu Leu Phe Leu Met Ala Leu Thr Gly Asn Ala 35 40 45	144
ctc ctc atc ctc ctc atc cac tca gag ccc cgc ctc cac acc ccc atg Leu Leu Ile Leu Leu Ile His Ser Glu Pro Arg Leu His Thr Pro Met 50 55 60	192
tac ttc ttc atc agc cag ctc gcg ctc atg gat ctc atg tac cta tgc Tyr Phe Phe Ile Ser Gln Leu Ala Leu Met Asp Leu Met Tyr Leu Cys 65 70 75 80	240
gtg act gtg ccc aag atg ctt gtg ggc cag gtc act gga gat gat acc Val Thr Val Pro Lys Met Leu Val Gly Gln Val Thr Gly Asp Asp Thr 85 90 95	288
att tcc ccg tca ggc tgt ggg atc cag atg ttc ttc tac ctg acc ctg Ile Ser Pro Ser Gly Cys Gly Ile Gln Met Phe Phe Tyr Leu Thr Leu 100 105 110	336
gct gga gct gag gtt ttc ctc ctg gct gcc atg gcc tat gac cga tat Ala Gly Ala Glu Val Phe Leu Leu Ala Ala Met Ala Tyr Asp Arg Tyr 115 120 125	384
gct gct gtt tgc aga cct ctc cat tac cca ctg ctg atg aac cag agg Ala Ala Val Cys Arg Pro Leu His Tyr Pro Leu Met Asn Gln Arg 130 135 140	432
gtg tgc cag ctc ctg gtg tca gcc tgc tgg gtt ttg gga atg gtt gat Val Cys Gln Leu Leu Val Ser Ala Cys Trp Val Leu Gly Met Val Asp 145 150 155 160	480
ggc ttg ttg ctc acc ccc att acc atg agc ttc ccc ttt tgc cag tct Gly Leu Leu Leu Thr Pro Ile Thr Met Ser Phe Pro Phe Cys Gln Ser 165 170 175	528
agg aaa atc ctg agt ttt ttc tgt gag act cct gcc ctg ctg aag ctc Arg Lys Ile Leu Ser Phe Phe Cys Glu Thr Pro Ala Leu Leu Lys Leu 180 185 190	576
tcc tgc tct gac gtc tcc ctc tat aag acg ctc atg tac ctg tgc tgc Ser Cys Ser Asp Val Ser Leu Tyr Lys Thr Leu Met Tyr Leu Cys Cys 195 200 205	624
atc ctc atg ctt ctc gcc ccc atc atg gtc atc tcc agc tca tac acc Ile Leu Met Leu Leu Ala Pro Ile Met Val Ile Ser Ser Ser Tyr Thr 210 215 220	672
ctc atc ctg cat ctc atc cac agg atg aat tct gcc gcc ggc cac agg Leu Ile Leu His Leu Ile His Arg Met Asn Ser Ala Ala Gly His Arg 225 230 235 240	720
aag gcc ttg gcc acc tgc tcc tcc cac atg atc ata gtg ctg ctg ctc Lys Ala Leu Ala Thr Cys Ser Ser His Met Ile Ile Val Leu Leu Leu 245 250 255	768

ttc ggt gct tcc ttç tac acc tac atg ctc ccg agt tcc tac cac aca 816
 Phe Gly Ala Ser Phe Tyr Thr Tyr Met Leu Pro Ser Ser Tyr His Thr
 260 265 270

gct gag cag gac atg atg gtg tct gcc ttt tac acc atc ttc act cct 864
 Ala Glu Gln Asp Met Met Val Ser Ala Phe Tyr Thr Ile Phe Thr Pro
 275 280 285

gtg ctg aac ccc ctc att tac agt ctc cgc aac aaa gat gtc acc agg 912
 Val Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Thr Arg
 290 295 300

gct atg agg agc atg atg cag tca aga a 940
 Ala Met Arg Ser Met Met Gln Ser Arg
 305 310

<210> 340

<211> 313

<212> PRT

<213> Homo Sapiens

<400> 340

Met Cys Ser Gly Asn Gln Thr Ser Gln Asn Gln Thr Ala Ser Thr Asp
 1 5 10 15

Phe Thr Leu Thr Gly Leu Phe Ala Glu Ser Lys His Ala Ala Leu Leu
 20 25 30

Tyr Thr Val Thr Phe Leu Leu Phe Leu Met Ala Leu Thr Gly Asn Ala
 35 40 45

Leu Leu Ile Leu Leu Ile His Ser Glu Pro Arg Leu His Thr Pro Met
 50 55 60

Tyr Phe Phe Ile Ser Gln Leu Ala Leu Met Asp Leu Met Tyr Leu Cys
 65 70 75 80

Val Thr Val Pro Lys Met Leu Val Gly Gln Val Thr Gly Asp Asp Thr
 85 90 95

Ile Ser Pro Ser Gly Cys Gly Ile Gln Met Phe Phe Tyr Leu Thr Leu
 100 105 110

Ala Gly Ala Glu Val Phe Leu Leu Ala Ala Met Ala Tyr Asp Arg Tyr
 115 120 125

Ala Ala Val Cys Arg Pro Leu His Tyr Pro Leu Leu Met Asn Gln Arg
 130 135 140

Val Cys Gln Leu Leu Val Ser Ala Cys Trp Val Leu Gly Met Val Asp

145 150 155 160
 Gly Leu Leu Leu Thr Pro Ile Thr Met Ser Phe Pro Phe Cys Gln Ser
 165 170 175
 Arg Lys Ile Leu Ser Phe Phe Cys Glu Thr Pro Ala Leu Leu Lys Leu
 180 185 190
 Ser Cys Ser Asp Val Ser Leu Tyr Lys Thr Leu Met Tyr Leu Cys Cys
 195 200 205
 Ile Leu Met Leu Leu Ala Pro Ile Met Val Ile Ser Ser Ser Tyr Thr
 210 215 220
 Leu Ile Leu His Leu Ile His Arg Met Asn Ser Ala Ala Gly His Arg
 225 230 235 240
 Lys Ala Leu Ala Thr Cys Ser Ser His Met Ile Ile Val Leu Leu Leu
 245 250 255
 Phe Gly Ala Ser Phe Tyr Thr Tyr Met Leu Pro Ser Ser Tyr His Thr
 260 265 270
 Ala Glu Gln Asp Met Met Val Ser Ala Phe Tyr Thr Ile Phe Thr Pro
 275 280 285
 Val Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Thr Arg
 290 295 300
 Ala Met Arg Ser Met Met Gln Ser Arg
 305 310

<210> 341
 <211> 939
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1)..(936)
 <223>

<400> 341
 atg ccc aat tca acc acc gtg atg gaa ttt ctc ctc atg agg ttt tct 48
 Met Pro Asn Ser Thr Thr Val Met Glu Phe Leu Leu Met Arg Phe Ser
 1 5 10 15
 gat gtg tgg aca cta cag att tta cat tct gca tcc ttc ttt atg ttg 96
 Asp Val Trp Thr Leu Gln Ile Leu His Ser Ala Ser Phe Phe Met Leu

20	25	30	
tat ttg gta act cta atg gga aac atc ctc att gtg acc gtc acc acc Tyr Leu Val Thr Leu Met Gly Asn Ile Leu Ile Val Thr Val Thr Thr			144
35	40	45	
tgt gac agc agc ctt cac atg ccc atg tac ttc ttc ctc agg aat ctg Cys Asp Ser Ser Leu His Met Pro Met Tyr Phe Phe Leu Arg Asn Leu			192
50	55	60	
tct atc ttg gat gcc tgc tac att tct gtt aca gtc cct acc tca tgt Ser Ile Leu Asp Ala Cys Tyr Ile Ser Val Thr Val Pro Thr Ser Cys			240
65	70	75	80
gtc aat tcc cta ctg gac agc acc acc att tct aag gcg gga tgt gta Val Asn Ser Leu Leu Asp Ser Thr Thr Ile Ser Lys Ala Gly Cys Val			288
85	90		95
gct cag gtc ttc ctc gtg gtt ttt ttt gta tat gtg gag ctt ctg ttt Ala Gln Val Phe Leu Val Val Phe Phe Val Tyr Val Glu Leu Leu Phe			336
100	105		110
ctc acc att atg gct cat gac cgc tat gtg gct gtc tgc cag cca ctt Leu Thr Ile Met Ala His Asp Arg Tyr Val Ala Val Cys Gln Pro Leu			384
115	120		125
cac tac cct gtg atc gtg aac tct cga atc tgc atc cag atg aca ctg His Tyr Pro Val Ile Val Asn Ser Arg Ile Cys Ile Gln Met Thr Leu			432
130	135		140
gcc tcc cta ctc agt ggt ctt gtc tat gca ggc atg cac act ggc agc Ala Ser Leu Leu Ser Gly Leu Val Tyr Ala Gly Met His Thr Gly Ser			480
145	150		155
160			
aca ttc cag ctg ccc ttc tgt cgg tcc aac gtt att cat caa ttc ttc Thr Phe Gln Leu Pro Phe Cys Arg Ser Asn Val Ile His Gln Phe Phe			528
165	170		175
tgt gac atc ccc tct ctg ctg aag ctc tct tgc tct gac acc ttc agc Cys Asp Ile Pro Ser Leu Leu Lys Ser Cys Ser Asp Thr Phe Ser			576
180	185		190
aat gag gtc atg att gtt gtc tct gct ctg ggg gta ggt ggc ggc tgt Asn Glu Val Met Ile Val Val Ser Ala Leu Gly Val Gly Gly Gly Cys			624
195	200		205
ttc atc ttt atc atc agg tct tac att cac atc ttt tcg acc gtg ctc Phe Ile Phe Ile Ile Arg Ser Tyr Ile His Ile Phe Ser Thr Val Leu			672
210	215		220
ggg ttt cca aga gga gca gac aga aca aag gcc ttt tcc acc tgc atc Gly Phe Pro Arg Gly Ala Asp Arg Thr Lys Ala Phe Ser Thr Cys Ile			720
225	230		235
240			
cct cac atc ctg gtg gtg tca gtc ttc ctc agt tca tgc tct tct gtg Pro His Ile Leu Val Val Ser Val Phe Leu Ser Ser Cys Ser Ser Val			768
245	250		255
tac ctc agg cca cct gcg ata cct gca gcc acc cag gat ctg atc ctt Tyr Leu Arg Pro Pro Ala Ile Pro Ala Ala Thr Gln Asp Leu Ile Leu			816
260	265		270

tct ggt ttt tat tcc ata atg cct ccc ctc ttt aac cct att att tac 864
 Ser Gly Phe Tyr Ser Ile Met Pro Pro Leu Phe Asn Pro Ile Ile Tyr
 275 280 285

agt ctt aga aat aag caa ata aag gtg gcc atc aag aaa atc atg aag 912
 Ser Leu Arg Asn Lys Gln Ile Lys Val Ala Ile Lys Lys Ile Met Lys
 290 295 300

aga att ttt tat tca gaa aat gtg taa 939
 Arg Ile Phe Tyr Ser Glu Asn Val
 305 310

<210> 342

<211> 312

<212> PRT

<213> Homo Sapiens

<400> 342

Met Pro Asn Ser Thr Thr Val Met Glu Phe Leu Leu Met Arg Phe Ser
 1 5 10 15

Asp Val Trp Thr Leu Gln Ile Leu His Ser Ala Ser Phe Phe Met Leu
 20 25 30

Tyr Leu Val Thr Leu Met Gly Asn Ile Leu Ile Val Thr Val Thr Thr
 35 40 45

Cys Asp Ser Ser Leu His Met Pro Met Tyr Phe Phe Leu Arg Asn Leu
 50 55 60

Ser Ile Leu Asp Ala Cys Tyr Ile Ser Val Thr Val Pro Thr Ser Cys
 65 70 75 80

Val Asn Ser Leu Leu Asp Ser Thr Thr Ile Ser Lys Ala Gly Cys Val
 85 90 95

Ala Gln Val Phe Leu Val Val Phe Phe Val Tyr Val Glu Leu Leu Phe
 100 105 110

Leu Thr Ile Met Ala His Asp Arg Tyr Val Ala Val Cys Gln Pro Leu
 115 120 125

His Tyr Pro Val Ile Val Asn Ser Arg Ile Cys Ile Gln Met Thr Leu
 130 135 140

Ala Ser Leu Leu Ser Gly Leu Val Tyr Ala Gly Met His Thr Gly Ser
 145 150 155 160

Thr Phe Gln Leu Pro Phe Cys Arg Ser Asn Val Ile His Gln Phe Phe
 165 170 175

Cys Asp Ile Pro Ser Leu Leu Lys Leu Ser Cys Ser Asp Thr Phe Ser
 180 185 190

Asn Glu Val Met Ile Val Val Ser Ala Leu Gly Val Gly Gly Gly Cys
 195 200 205

Phe Ile Phe Ile Ile Arg Ser Tyr Ile His Ile Phe Ser Thr Val Leu
 210 215 220

Gly Phe Pro Arg Gly Ala Asp Arg Thr Lys Ala Phe Ser Thr Cys Ile
 225 230 235 240

Pro His Ile Leu Val Val Ser Val Phe Leu Ser Ser Cys Ser Ser Val
 245 250 255

Tyr Leu Arg Pro Pro Ala Ile Pro Ala Ala Thr Gln Asp Leu Ile Leu
 260 265 270

Ser Gly Phe Tyr Ser Ile Met Pro Pro Leu Phe Asn Pro Ile Ile Tyr
 275 280 285

Ser Leu Arg Asn Lys Gln Ile Lys Val Ala Ile Lys Lys Ile Met Lys
 290 295 300

Arg Ile Phe Tyr Ser Glu Asn Val
 305 310

<210> 343
 <211> 942
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1)..(939)
 <223>

<400> 343
 atg ggg cag acc aac gta acc tcc tgg agg gat ttt gtc ttc ctg ggc 48
 Met Gly Gln Thr Asn Val Thr Ser Trp Arg Asp Phe Val Phe Leu Gly
 1 5 10 15
 ttc tcc agt tct ggg gag ttg cag ctc ctt ctc ttt gcc ttg ttc ctc 96
 Phe Ser Ser Ser Gly Glu Leu Gln Leu Leu Phe Ala Leu Phe Leu
 20 25 30
 tct ctg tat cta gtc act ctg acc agc aat gtc ttc att atc ata gcc 144

Ser	Leu	Tyr	Leu	Val	Thr	Leu	Thr	Ser	Asn	Val	Phe	Ile	Ile	Ile	Ala	
	35					40					45					
atc	agg	ctg	gat	agc	cat	ctg	cac	acc	ccc	atg	tac	ctc	ttc	ctt	tcc	192
Ile	Arg	Leu	Asp	Ser	His	Leu	His	Thr	Pro	Met	Tyr	Leu	Phe	Leu	Ser	
	50					55					60					
ttc	cta	tcc	ttc	tct	gag	acc	tgc	tac	act	ttg	ggc	atc	atc	cct	aga	240
Phe	Leu	Ser	Phe	Ser	Glu	Thr	Cys	Tyr	Thr	Leu	Gly	Ile	Ile	Pro	Arg	
65					70					75					80	
atg	ctc	tct	ggc	ctg	gct	ggg	ggg	gac	cag	gct	atc	tcc	tat	gtg	ggc	288
Met	Leu	Ser	Gly	Leu	Ala	Gly	Gly	Asp	Gln	Ala	Ile	Ser	Tyr	Val	Gly	
				85					90					95		
tgt	gct	gcc	cag	atg	ttc	ttt	tct	gcc	tca	tgg	gcc	tgt	act	aac	tgc	336
Cys	Ala	Ala	Gln	Met	Phe	Phe	Ser	Ala	Ser	Trp	Ala	Cys	Thr	Asn	Cys	
			100					105					110			
ttc	ctt	ctg	gct	gcc	atg	ggc	ttt	gac	aga	tat	gtg	gcc	atc	tgt	gct	384
Phe	Leu	Leu	Ala	Ala	Met	Gly	Phe	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Ala	
			115				120					125				
cca	ctc	cac	tat	gcc	agc	cac	atg	aat	cct	acc	ctc	tgt	gcc	cag	ctg	432
Pro	Leu	His	Tyr	Ala	Ser	His	Met	Asn	Pro	Thr	Leu	Cys	Ala	Gln	Leu	
			130				135					140				
gtc	att	act	tcc	ttc	ctg	act	gga	tac	ctc	ttt	gga	ctg	gga	atg	aca	480
Val	Ile	Thr	Ser	Phe	Leu	Thr	Gly	Tyr	Leu	Phe	Gly	Leu	Gly	Met	Thr	
145					150					155					160	
cta	ggt	att	ttc	cac	ctc	tca	ttc	tgc	agc	tcc	cat	gaa	atc	cag	cac	528
Leu	Val	Ile	Phe	His	Leu	Ser	Phe	Cys	Ser	Ser	His	Glu	Ile	Gln	His	
				165					170					175		
ttt	ttt	tgt	gac	acg	cca	cct	gtg	ctg	agc	cta	gcc	tgt	gga	gat	aca	576
Phe	Phe	Cys	Asp	Thr	Pro	Pro	Val	Leu	Ser	Leu	Ala	Cys	Gly	Asp	Thr	
			180					185					190			
ggc	ccg	agt	gag	ctg	agg	atc	ttt	atc	ctc	agt	ctt	ttg	gtc	ctc	ttg	624
Gly	Pro	Ser	Glu	Leu	Arg	Ile	Phe	Ile	Leu	Ser	Leu	Leu	Val	Leu	Leu	
		195					200						205			
gtc	tcc	ttc	ttc	ttc	atc	acc	atc	tcc	tac	gcc	tac	atc	ttg	gca	gca	672
Val	Ser	Phe	Phe	Phe	Ile	Thr	Ile	Ser	Tyr	Ala	Tyr	Ile	Leu	Ala	Ala	
			210				215					220				
ata	ctg	agg	atc	ccc	tct	gct	gag	ggg	cag	aag	aag	gcc	ttc	tcc	act	720
Ile	Leu	Arg	Ile	Pro	Ser	Ala	Glu	Gly	Gln	Lys	Lys	Ala	Phe	Ser	Thr	
225					230					235					240	
tgt	gcc	tcg	cac	ctt	aca	gtg	gtc	att	att	cat	tat	ggc	tgt	gct	tcc	768
Cys	Ala	Ser	His	Leu	Thr	Val	Val	Ile	Ile	His	Tyr	Gly	Cys	Ala	Ser	
				245					250					255		
ttc	gtg	tac	ctg	agg	ccc	aaa	gcc	agc	tac	tct	ctt	gag	aga	gat	cag	816
Phe	Val	Tyr	Leu	Arg	Pro	Lys	Ala	Ser	Tyr	Ser	Leu	Glu	Arg	Asp	Gln	
			260					265					270			
ctt	att	gcc	atg	acc	tat	act	gta	gtg	acc	ccc	ctc	ctt	aat	ccc	att	864
Leu	Ile	Ala	Met	Thr	Tyr	Thr	Val	Val	Thr	Pro	Leu	Leu	Asn	Pro	Ile	

275 280 285
 gtt tat agt cta agg act agg gct ata cag aca gct ctg agg aat gct 912
 Val Tyr Ser Leu Arg Thr Arg Ala Ile Gln Thr Ala Leu Arg Asn Ala
 290 295 300

 ttc aga ggg aga ttg ctg ggt aaa gga tga 942
 Phe Arg Gly Arg Leu Leu Gly Lys Gly
 305 310

 <210> 344
 <211> 313
 <212> PRT
 <213> Homo Sapiens

 <400> 344

 Met Gly Gln Thr Asn Val Thr Ser Trp Arg Asp Phe Val Phe Leu Gly
 1 5 10 15

 Phe Ser Ser Ser Gly Glu Leu Gln Leu Leu Leu Phe Ala Leu Phe Leu
 20 25 30

 Ser Leu Tyr Leu Val Thr Leu Thr Ser Asn Val Phe Ile Ile Ile Ala
 35 40 45

 Ile Arg Leu Asp Ser His Leu His Thr Pro Met Tyr Leu Phe Leu Ser
 50 55 60

 Phe Leu Ser Phe Ser Glu Thr Cys Tyr Thr Leu Gly Ile Ile Pro Arg
 65 70 75 80

 Met Leu Ser Gly Leu Ala Gly Gly Asp Gln Ala Ile Ser Tyr Val Gly
 85 90 95

 Cys Ala Ala Gln Met Phe Phe Ser Ala Ser Trp Ala Cys Thr Asn Cys
 100 105 110

 Phe Leu Leu Ala Ala Met Gly Phe Asp Arg Tyr Val Ala Ile Cys Ala
 115 120 125

 Pro Leu His Tyr Ala Ser His Met Asn Pro Thr Leu Cys Ala Gln Leu
 130 135 140

 Val Ile Thr Ser Phe Leu Thr Gly Tyr Leu Phe Gly Leu Gly Met Thr
 145 150 155 160

 Leu Val Ile Phe His Leu Ser Phe Cys Ser Ser His Glu Ile Gln His
 165 170 175

Phe Phe Cys Asp Thr Pro Pro Val Leu Ser Leu Ala Cys Gly Asp Thr
 180 185 190

Gly Pro Ser Glu Leu Arg Ile Phe Ile Leu Ser Leu Leu Val Leu Leu
 195 200 205

Val Ser Phe Phe Phe Ile Thr Ile Ser Tyr Ala Tyr Ile Leu Ala Ala
 210 215 220

Ile Leu Arg Ile Pro Ser Ala Glu Gly Gln Lys Lys Ala Phe Ser Thr
 225 230 235 240

Cys Ala Ser His Leu Thr Val Val Ile Ile His Tyr Gly Cys Ala Ser
 245 250 255

Phe Val Tyr Leu Arg Pro Lys Ala Ser Tyr Ser Leu Glu Arg Asp Gln
 260 265 270

Leu Ile Ala Met Thr Tyr Thr Val Val Thr Pro Leu Leu Asn Pro Ile
 275 280 285

Val Tyr Ser Leu Arg Thr Arg Ala Ile Gln Thr Ala Leu Arg Asn Ala
 290 295 300

Phe Arg Gly Arg Leu Leu Gly Lys Gly
 305 310

<210> 345
 <211> 975
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1) .. (972)
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<400> 345
 atg gag agc ccc aat cga acc acc att cag gag ttt atc ttc tcc gct 48
 Met Glu Ser Pro Asn Arg Thr Thr Ile Gln Glu Phe Ile Phe Ser Ala
 1 5 10 15
 ttc cct tat tcc tgg gtt aag tct gtt gtc tgc ttt gtt cca ctg etc 96
 Phe Pro Tyr Ser Trp Val Lys Ser Val Val Cys Phe Val Pro Leu Leu
 20 25 30
 ttc atc tat gct ttc att gtt gtt gga aac ctg gtc atc atc aca gtg 144
 Phe Ile Tyr Ala Phe Ile Val Val Gly Asn Leu Val Ile Ile Thr Val
 35 40 45

gtc cag ttg aat act cac ctc cac act ccc atg tat act ttt atc agt Val Gln Leu Asn Thr His Leu His Thr Pro Met Tyr Thr Phe Ile Ser 50 55 60	192
gct ctt tct ttc ctg gag att tgg tat acc aca gcc aca atc cca aag Ala Leu Ser Phe Leu Glu Ile Trp Tyr Thr Ala Thr Ile Pro Lys 65 70 75 80	240
atg ctg tct agc ctg ctt agt gag agg agc att tcc ttc aat ggt tgt Met Leu Ser Ser Leu Leu Ser Glu Arg Ser Ile Ser Phe Asn Gly Cys 85 90 95	288
ctc ctg cag atg tat ttc ttc cat tcc acc ggc atc tgt gag gtg tgt Leu Leu Gln Met Tyr Phe Phe His Ser Thr Gly Ile Cys Glu Val Cys 100 105 110	336
ctc ttg aca gtt atg gcc ttt gac cac tac ctg gcc ata tgc agc cct Leu Leu Thr Val Met Ala Phe Asp His Tyr Leu Ala Ile Cys Ser Pro 115 120 125	384
ctt cat tat ccc tct atc atg acc ccc aag cta tgt acc caa ctg act Leu His Tyr Pro Ser Ile Met Thr Pro Lys Leu Cys Thr Gln Leu Thr 130 135 140	432
tta agt tgc tgt gtt tgt ggc ttt atc aca ccc ctt cct gag att gcc Leu Ser Cys Cys Val Cys Gly Phe Ile Thr Pro Leu Pro Glu Ile Ala 145 150 155 160	480
tgg atc tct aca ctg cca ttt tgt ggt tcg aat cac ctt gaa cat atc Trp Ile Ser Thr Leu Pro Phe Cys Gly Ser Asn His Leu Glu His Ile 165 170 175	528
ttc tgt gac ttc ctc cca gtg ctg cgt ctg gcc tgc aca gac aca cga Phe Cys Asp Phe Leu Pro Val Leu Arg Leu Ala Cys Thr Asp Thr Arg 180 185 190	576
gcc atc gtc atg att cag gta gtg gat gtc att cat gca gtg gag att Ala Ile Val Met Ile Gln Val Val Asp Val Ile His Ala Val Glu Ile 195 200 205	624
att aca gct gtg atg ctc atc ttc atg tcc tac gat ggt att gtg gct Ile Thr Ala Val Met Leu Ile Phe Met Ser Tyr Asp Gly Ile Val Ala 210 215 220	672
gta att cta cgt att cat tca gct gga ggc cgc cgc aca gca ttt tcc Val Ile Leu Arg Ile His Ser Ala Gly Gly Arg Arg Thr Ala Phe Ser 225 230 235 240	720
acg tgt gtc tct cac ttc att gtc ttt tcg ctc ttc ttt ggc agt gtg Thr Cys Val Ser His Phe Ile Val Phe Ser Leu Phe Phe Gly Ser Val 245 250 255	768
act ctc atg tac cta cgc ttc tct gcc acc tac tct ttg ttc tgg gat Thr Leu Met Tyr Leu Arg Phe Ser Ala Thr Tyr Ser Leu Phe Trp Asp 260 265 270	816
ata gcc att gct ctg gcc ttt gca gtt ttg tct ccc ttc ttc aac ccc Ile Ala Ile Ala Leu Ala Phe Ala Val Leu Ser Pro Phe Phe Asn Pro 275 280 285	864
att atc tat agc ctg agg aat aaa gaa ata aaa gaa gct ata aaa aag	912

Ile Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Glu Ala Ile Lys Lys
 290 295 300
 cac ata ggt caa gct aag ata ttt ttt tcc gta aga cca ggg acc tca 960
 His Ile Gly Gln Ala Lys Ile Phe Phe Ser Val Arg Pro Gly Thr Ser
 305 310 315 320
 agt aag ata ttt tag 975
 Ser Lys Ile Phe

<210> 346
 <211> 324
 <212> PRT
 <213> Homo Sapiens
 <400> 346

Met Glu Ser Pro Asn Arg Thr Thr Ile Gln Glu Phe Ile Phe Ser Ala
 1 5 10 15

Phe Pro Tyr Ser Trp Val Lys Ser Val Val Cys Phe Val Pro Leu Leu
 20 25 30

Phe Ile Tyr Ala Phe Ile Val Val Gly Asn Leu Val Ile Ile Thr Val
 35 40 45

Val Gln Leu Asn Thr His Leu His Thr Pro Met Tyr Thr Phe Ile Ser
 50 55 60

Ala Leu Ser Phe Leu Glu Ile Trp Tyr Thr Thr Ala Thr Ile Pro Lys
 65 70 75 80

Met Leu Ser Ser Leu Leu Ser Glu Arg Ser Ile Ser Phe Asn Gly Cys
 85 90 95

Leu Leu Gln Met Tyr Phe Phe His Ser Thr Gly Ile Cys Glu Val Cys
 100 105 110

Leu Leu Thr Val Met Ala Phe Asp His Tyr Leu Ala Ile Cys Ser Pro
 115 120 125

Leu His Tyr Pro Ser Ile Met Thr Pro Lys Leu Cys Thr Gln Leu Thr
 130 135 140

Leu Ser Cys Cys Val Cys Gly Phe Ile Thr Pro Leu Pro Glu Ile Ala
 145 150 155 160

Trp Ile Ser Thr Leu Pro Phe Cys Gly Ser Asn His Leu Glu His Ile
 165 170 175

Phe Cys Asp Phe Leu Pro Val Leu Arg Leu Ala Cys Thr Asp Thr Arg
 180 185 190
 Ala Ile Val Met Ile Gln Val Val Asp Val Ile His Ala Val Glu Ile
 195 200 205
 Ile Thr Ala Val Met Leu Ile Phe Met Ser Tyr Asp Gly Ile Val Ala
 210 215 220
 Val Ile Leu Arg Ile His Ser Ala Gly Gly Arg Arg Thr Ala Phe Ser
 225 230 235 240
 Thr Cys Val Ser His Phe Ile Val Phe Ser Leu Phe Phe Gly Ser Val
 245 250 255
 Thr Leu Met Tyr Leu Arg Phe Ser Ala Thr Tyr Ser Leu Phe Trp Asp
 260 265 270
 Ile Ala Ile Ala Leu Ala Phe Ala Val Leu Ser Pro Phe Phe Asn Pro
 275 280 285
 Ile Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Glu Ala Ile Lys Lys
 290 295 300
 His Ile Gly Gln Ala Lys Ile Phe Phe Ser Val Arg Pro Gly Thr Ser
 305 310 315 320
 Ser Lys Ile Phe

<210> 347
 <211> 954
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1)..(951)
 <223>

<400> 347
 atg gat caa tac aac cat tca agc ctg gct gaa ttt gtg ttc ctt ggc 48
 Met Asp Gln Tyr Asn His Ser Ser Leu Ala Glu Phe Val Phe Leu Gly
 1 5 10 15
 ttt gcc agt gtg ggc tat gtc agg ggc tgg ctt ttt gtc ctg ctg cta 96
 Phe Ala Ser Val Gly Tyr Val Arg Gly Trp Leu Phe Val Leu Leu Leu
 20 25 30

ttg gca tac ctg ttc acc atc tgt ggt aac atg ctc atc ttc tca gtc Leu Ala Tyr Leu Phe Thr Ile Cys Gly Asn Met Leu Ile Phe Ser Val 35 40 45	144
atc cga ctg gat gca gct ctg cac aca cct atg tac cac ttt gtc agt Ile Arg Leu Asp Ala Ala Leu His Thr Pro Met Tyr His Phe Val Ser 50 55 60	192
gtt ctt tcc ttc ttg gag ttg tgg tat aca gct acc act atc cct aag Val Leu Ser Phe Leu Glu Leu Trp Tyr Thr Ala Thr Thr Ile Pro Lys 65 70 75 80	240
atg ttg tct aat att ctc agt gag aag aaa acc att tct ttt gca gga Met Leu Ser Asn Ile Leu Ser Glu Lys Lys Thr Ile Ser Phe Ala Gly 85 90 95	288
tgc ctc ctt cag acc tac ttc ttc cac tcc ttg gga gcg tct gaa tgc Cys Leu Leu Gln Thr Tyr Phe Phe His Ser Leu Gly Ala Ser Glu Cys 100 105 110	336
tac ctt ctt aca gcc atg gcc tat gat aga tac ctg gcc att tgt cgg Tyr Leu Leu Thr Ala Met Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Arg 115 120 125	384
ccc ctc cac tac cct ata att atg acc acc aca ctc tgt gcc aag atg Pro Leu His Tyr Pro Ile Ile Met Thr Thr Thr Leu Cys Ala Lys Met 130 135 140	432
gct gct gct tgt tgg act tgt ggc ttc ctg tgt ccc att tct gag gtc Ala Ala Ala Cys Trp Thr Cys Gly Phe Leu Cys Pro Ile Ser Glu Val 145 150 155 160	480
atc ctt gcc tcc cag ctc cca ttt tgt gct tac aat gaa atc caa cac Ile Leu Ala Ser Gln Leu Pro Phe Cys Ala Tyr Asn Glu Ile Gln His 165 170 175	528
att ttc tgt gac ttt cca cct ttg ctg agc ttg gcc tgc aag gac aca Ile Phe Cys Asp Phe Pro Pro Leu Leu Ser Leu Ala Cys Lys Asp Thr 180 185 190	576
tct gct aac att ctg gtg gac ttt gcc att aat gct ttc ata att ctt Ser Ala Asn Ile Leu Val Asp Phe Ala Ile Asn Ala Phe Ile Ile Leu 195 200 205	624
atc act ttc ttc ttt atc atg att tct tat gca agg atc att ggg gct Ile Thr Phe Phe Phe Ile Met Ile Ser Tyr Ala Arg Ile Ile Gly Ala 210 215 220	672
gtg ctg aag ata aaa aca gca tca gga aga aag aag gcc ttt tct acc Val Leu Lys Ile Lys Thr Ala Ser Gly Arg Lys Lys Ala Phe Ser Thr 225 230 235 240	720
tgt gcc tca cat ctt gct gtg gtc ctc atc ttc ttt ggg agc atc atc Cys Ala Ser His Leu Ala Val Val Leu Ile Phe Phe Gly Ser Ile Ile 245 250 255	768
ttc atg tat gtg cgg cta aag aag agc tat tcc ctg acc ctt gac cga Phe Met Tyr Val Arg Leu Lys Lys Ser Tyr Ser Leu Thr Leu Asp Arg 260 265 270	816

aca ctt gct ata gtt tac tcc gta cta aca cca atg gtc aat cca att 864
 Thr Leu Ala Ile Val Tyr Ser Val Leu Thr Pro Met Val Asn Pro Ile
 275 280 285

atc tac agt ctt cgt aac aag gaa atc att aaa gct atc aag agg acc 912
 Ile Tyr Ser Leu Arg Asn Lys Glu Ile Ile Lys Ala Ile Lys Arg Thr
 290 295 300

atc ttc cag aag gga gat aaa gct agt ctt gct cat ctt tga 954
 Ile Phe Gln Lys Gly Asp Lys Ala Ser Leu Ala His Leu
 305 310 315

<210> 348
 <211> 317
 <212> PRT
 <213> Homo Sapiens

<400> 348

Met Asp Gln Tyr Asn His Ser Ser Leu Ala Glu Phe Val Phe Leu Gly
 1 5 10 15

Phe Ala Ser Val Gly Tyr Val Arg Gly Trp Leu Phe Val Leu Leu Leu
 20 25 30

Leu Ala Tyr Leu Phe Thr Ile Cys Gly Asn Met Leu Ile Phe Ser Val
 35 40 45

Ile Arg Leu Asp Ala Ala Leu His Thr Pro Met Tyr His Phe Val Ser
 50 55 60

Val Leu Ser Phe Leu Glu Leu Trp Tyr Thr Ala Thr Thr Ile Pro Lys
 65 70 75 80

Met Leu Ser Asn Ile Leu Ser Glu Lys Lys Thr Ile Ser Phe Ala Gly
 85 90 95

Cys Leu Leu Gln Thr Tyr Phe Phe His Ser Leu Gly Ala Ser Glu Cys
 100 105 110

Tyr Leu Leu Thr Ala Met Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Arg
 115 120 125

Pro Leu His Tyr Pro Ile Ile Met Thr Thr Thr Leu Cys Ala Lys Met
 130 135 140

Ala Ala Ala Cys Trp Thr Cys Gly Phe Leu Cys Pro Ile Ser Glu Val
 145 150 155 160

Ile Leu Ala Ser Gln Leu Pro Phe Cys Ala Tyr Asn Glu Ile Gln His

165

170

175

Ile Phe Cys Asp Phe Pro Pro Leu Leu Ser Leu Ala Cys Lys Asp Thr
 180 185 190

Ser Ala Asn Ile Leu Val Asp Phe Ala Ile Asn Ala Phe Ile Ile Leu
 195 200 205

Ile Thr Phe Phe Phe Ile Met Ile Ser Tyr Ala Arg Ile Ile Gly Ala
 210 215 220

Val Leu Lys Ile Lys Thr Ala Ser Gly Arg Lys Lys Ala Phe Ser Thr
 225 230 235 240

Cys Ala Ser His Leu Ala Val Val Leu Ile Phe Phe Gly Ser Ile Ile
 245 250 255

Phe Met Tyr Val Arg Leu Lys Lys Ser Tyr Ser Leu Thr Leu Asp Arg
 260 265 270

Thr Leu Ala Ile Val Tyr Ser Val Leu Thr Pro Met Val Asn Pro Ile
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Glu Ile Ile Lys Ala Ile Lys Arg Thr
 290 295 300

Ile Phe Gln Lys Gly Asp Lys Ala Ser Leu Ala His Leu
 305 310 315

<210> 349
 <211> 960
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1)..(957)
 <223>

<400> 349
 atg aca cag ttg acg gcc agt ggg aat cag aca atg gtg act gag ttc 48
 Met Thr Gln Leu Thr Ala Ser Gly Asn Gln Thr Met Val Thr Glu Phe
 1 5 10 15

ctc ttc tct atg ttc ccg cat gcg cac aga ggt ggc ctc tta ttc ttt 96
 Leu Phe Ser Met Thr Phe Pro His Ala His Arg Gly Gly Leu Leu Phe Phe
 20 25 30

att ccc ttg ctt ctc atc tac gga ttt atc cta act gga aac cta ata 144
 Ile Pro Leu Leu Leu Ile Tyr Gly Phe Ile Leu Thr Gly Asn Leu Ile

35	40	45	
atg ttc att gtc atc cag gtg ggc atg gcc ctg cac acc cct ttg tat			192
Met Phe Ile Val Ile Gln Val Gly Met Ala Leu His Thr Pro Leu Tyr			
50	55	60	
ttc ttt atc agt gtc ctc tcc ttc ctg gag atc tgc tat acc aca acc			240
Phe Phe Ile Ser Val Leu Ser Phe Leu Glu Ile Cys Tyr Thr Thr Thr			
65	70	75	80
acc atc ccc aag atg ctg tcc tgc cta atc agt gag cag aag agc att			288
Thr Ile Pro Lys Met Leu Ser Cys Leu Ile Ser Glu Gln Lys Ser Ile			
85	90	95	
tcc gtg gct ggc tgc ctc ctg cag atg tac ttt ttc cac tca ctt ggt			336
Ser Val Ala Gly Cys Leu Leu Gln Met Tyr Phe Phe His Ser Leu Gly			
100	105	110	
atc aca gaa agc tgt gtc ctg aca gca atg gcc att gac agg tac ata			384
Ile Thr Glu Ser Cys Val Leu Thr Ala Met Ala Ile Asp Arg Tyr Ile			
115	120	125	
gct atc tgc aat cca ctc cgt tac cca acc atc atg att ccc aaa ctt			432
Ala Ile Cys Asn Pro Leu Arg Tyr Pro Thr Ile Met Ile Pro Lys Leu			
130	135	140	
tgt atc cag ctg aca gtt gga tcc tgc ttt tgt ggc ttc ctc ctt gtg			480
Cys Ile Gln Leu Thr Val Gly Ser Cys Phe Cys Gly Phe Leu Leu Val			
145	150	155	160
ctt cct gag att gca tgg att tcc acc ttg cct ttc tgt ggc tcc aac			528
Leu Pro Glu Ile Ala Trp Ile Ser Thr Leu Pro Phe Cys Gly Ser Asn			
165	170	175	
cag atc cac cag ata ttc tgt gat ttc aca cct gtg ctg agc ttg gcc			576
Gln Ile His Gln Ile Phe Cys Asp Phe Thr Pro Val Leu Ser Leu Ala			
180	185	190	
tgc aca gat aca ttc cta gtg gtc att gtg gat gcc atc cat gca gcg			624
Cys Thr Asp Thr Phe Leu Val Val Ile Val Asp Ala Ile His Ala Ala			
195	200	205	
gaa att gta gcc tcc ttc ctg gtc att gct cta tcc tac atc cgg att			672
Glu Ile Val Ala Ser Phe Leu Val Ile Ala Leu Ser Tyr Ile Arg Ile			
210	215	220	
att ata gtg att ctg gga atg cac tca gct gaa ggt cat cac aag gcc			720
Ile Ile Val Ile Leu Gly Met His Ser Ala Glu Gly His His Lys Ala			
225	230	235	240
ttt tcc acc tgt gct gct cac ctt gct gtg ttc ttg cta ttt ttt ggc			768
Phe Ser Thr Cys Ala Ala His Leu Ala Val Phe Leu Leu Phe Phe Gly			
245	250	255	
agt gtg gct gtc atg tat ttg aga ttc tca gcc acc tac tca gtg ttt			816
Ser Val Ala Val Met Tyr Leu Arg Phe Ser Ala Thr Tyr Ser Val Phe			
260	265	270	
tgg gac aca gca att gct gtc act ttt gtt atc ctt gct ccc ttt ttc			864
Trp Asp Thr Ala Ile Ala Val Thr Phe Val Ile Leu Ala Pro Phe Phe			
275	280	285	

aac ccc atc atc tat agc ctg aaa aac aag gac atg aaa gag gct att 912
 Asn Pro Ile Ile Tyr Ser Leu Lys Asn Lys Asp Met Lys Glu Ala Ile
 290 295 300

gga agg ctt ttc cac tat cag aag agg gct ggt tgg gct ggg aaa tag 960
 Gly Arg Leu Phe His Tyr Gln Lys Arg Ala Gly Trp Ala Gly Lys
 305 310 315

<210> 350
 <211> 319
 <212> PRT
 <213> Homo Sapiens

<400> 350

Met Thr Gln Leu Thr Ala Ser Gly Asn Gln Thr Met Val Thr Glu Phe
 1 5 10 15

Leu Phe Ser Met Phe Pro His Ala His Arg Gly Gly Leu Leu Phe Phe
 20 25 30

Ile Pro Leu Leu Leu Ile Tyr Gly Phe Ile Leu Thr Gly Asn Leu Ile
 35 40 45

Met Phe Ile Val Ile Gln Val Gly Met Ala Leu His Thr Pro Leu Tyr
 50 55 60

Phe Phe Ile Ser Val Leu Ser Phe Leu Glu Ile Cys Tyr Thr Thr Thr
 65 70 75 80

Thr Ile Pro Lys Met Leu Ser Cys Leu Ile Ser Glu Gln Lys Ser Ile
 85 90 95

Ser Val Ala Gly Cys Leu Leu Gln Met Tyr Phe Phe His Ser Leu Gly
 100 105 110

Ile Thr Glu Ser Cys Val Leu Thr Ala Met Ala Ile Asp Arg Tyr Ile
 115 120 125

Ala Ile Cys Asn Pro Leu Arg Tyr Pro Thr Ile Met Ile Pro Lys Leu
 130 135 140

Cys Ile Gln Leu Thr Val Gly Ser Cys Phe Cys Gly Phe Leu Leu Val
 145 150 155 160

Leu Pro Glu Ile Ala Trp Ile Ser Thr Leu Pro Phe Cys Gly Ser Asn
 165 170 175

Gln Ile His Gln Ile Phe Cys Asp Phe Thr Pro Val Leu Ser Leu Ala
180 185 190

Cys Thr Asp Thr Phe Leu Val Val Ile Val Asp Ala Ile His Ala Ala
195 200 205

Glu Ile Val Ala Ser Phe Leu Val Ile Ala Leu Ser Tyr Ile Arg Ile
210 215 220

Ile Ile Val Ile Leu Gly Met His Ser Ala Glu Gly His His Lys Ala
225 230 235 240

Phe Ser Thr Cys Ala Ala His Leu Ala Val Phe Leu Leu Phe Phe Gly
245 250 255

Ser Val Ala Val Met Tyr Leu Arg Phe Ser Ala Thr Tyr Ser Val Phe
260 265 270

Trp Asp Thr Ala Ile Ala Val Thr Phe Val Ile Leu Ala Pro Phe Phe
275 280 285

Asn Pro Ile Ile Tyr Ser Leu Lys Asn Lys Asp Met Lys Glu Ala Ile
290 295 300

Gly Arg Leu Phe His Tyr Gln Lys Arg Ala Gly Trp Ala Gly Lys
305 310 315

<210> 351
<211> 975
<212> DNA
<213> Homo Sapiens

<220>
<221> CDS
<222> (1)..(972)
<223>

<400> 351
atg aat gag aca aat cat tct cgg gtg aca gaa ttt gtg ttg ctg gga 48
Met Asn Glu Thr Asn His Ser Arg Val Thr Glu Phe Val Leu Leu Gly
1 5 10 15
ctg tct agt tca agg gag ctc caa cct ttc ttg ttt ctt aca ttt tca 96
Leu Ser Ser Ser Arg Glu Leu Gln Pro Phe Leu Phe Leu Thr Phe Ser
20 25 30
cta ctt tat cta gca att ctg ttg ggc aac ttt ctc atc atc ctc act 144
Leu Leu Tyr Leu Ala Ile Leu Leu Gly Asn Phe Leu Ile Ile Leu Thr
35 40 45
gtg acc tca gat tcc cgc ctt cac acc ccc atg tac ttt ctg ctt gca 192

Val	Thr	Ser	Asp	Ser	Arg	Leu	His	Thr	Pro	Met	Tyr	Phe	Leu	Leu	Ala	
50						55					60					
aac	ctg	tca	ttt	ata	gac	gta	tgt	gtt	gcc	tct	ttt	gct	acc	cct	aaa	240
Asn	Leu	Ser	Phe	Ile	Asp	Val	Cys	Val	Ala	Ser	Phe	Ala	Thr	Pro	Lys	
65					70				75						80	
atg	att	gca	gac	ttt	ctg	gtt	gag	cgc	aag	act	att	tct	ttt	gat	gcc	288
Met	Ile	Ala	Asp	Phe	Leu	Val	Glu	Arg	Lys	Thr	Ile	Ser	Phe	Asp	Ala	
				85				90						95		
tgc	ctg	gcc	cag	att	ttc	ttt	gtt	cat	ctc	ttc	act	ggc	agt	gaa	atg	336
Cys	Leu	Ala	Gln	Ile	Phe	Phe	Val	His	Leu	Phe	Thr	Gly	Ser	Glu	Met	
			100					105					110			
gtg	ctc	cta	gtt	tcc	atg	gcc	tat	gac	cgt	tat	gtt	gct	ata	tgc	aaa	384
Val	Leu	Leu	Val	Ser	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Lys	
			115					120					125			
cct	ctc	cac	tac	atg	aca	gtc	atg	agc	cgt	cgt	gta	tgt	gtt	gtg	ctc	432
Pro	Leu	His	Tyr	Met	Thr	Val	Met	Ser	Arg	Arg	Val	Cys	Val	Val	Leu	
			130					135				140				
gtc	ctc	att	tca	tgg	ttt	gtg	ggc	ttc	atc	cat	act	acc	agc	cag	ttg	480
Val	Leu	Ile	Ser	Trp	Phe	Val	Gly	Phe	Ile	His	Thr	Thr	Ser	Gln	Leu	
					150				155						160	
gca	ttc	act	gtt	aat	ctg	cca	ttt	tgt	ggc	cct	aat	aag	gta	gac	agt	528
Ala	Phe	Thr	Val	Asn	Leu	Pro	Phe	Cys	Gly	Pro	Asn	Lys	Val	Asp	Ser	
				165					170					175		
ttt	ttc	tgt	gac	ctt	cct	cta	gtg	acc	aag	tta	gcc	tgc	ata	gac	act	576
Phe	Phe	Cys	Asp	Leu	Pro	Leu	Val	Thr	Lys	Leu	Ala	Cys	Ile	Asp	Thr	
			180					185					190			
tat	gtt	gtc	agc	tta	cta	ata	gtt	gca	gat	agt	ggc	ttt	ctt	tct	ctg	624
Tyr	Val	Val	Ser	Leu	Leu	Ile	Val	Ala	Asp	Ser	Gly	Phe	Leu	Ser	Leu	
			195					200					205			
agt	tcc	ttt	ctc	ctc	ttg	gtt	gtc	tcc	tac	act	gta	ata	ctt	gtt	aca	672
Ser	Ser	Phe	Leu	Leu	Leu	Val	Val	Ser	Tyr	Thr	Val	Ile	Leu	Val	Thr	
			210					215					220			
gtt	agg	aat	cgc	tcc	tct	gca	agc	atg	gcg	aag	gcc	cgc	tcc	aca	ttg	720
Val	Arg	Asn	Arg	Ser	Ser	Ala	Ser	Met	Ala	Lys	Ala	Arg	Ser	Thr	Leu	
					230					235					240	
act	gct	cac	atc	act	gtg	gtc	act	tta	ttc	ttt	gga	cca	tgc	att	ttc	768
Thr	Ala	His	Ile	Thr	Val	Val	Thr	Leu	Phe	Phe	Gly	Pro	Cys	Ile	Phe	
				245					250					255		
atc	tat	gtg	tgg	ccc	ttc	agc	agt	tac	tca	gtt	gac	aaa	gtc	ctt	gct	816
Ile	Tyr	Val	Trp	Pro	Phe	Ser	Ser	Tyr	Ser	Val	Asp	Lys	Val	Leu	Ala	
			260					265					270			
gta	ttc	tac	acc	atc	ttc	acg	ctt	att	tta	aac	cct	gta	atc	tac	acg	864
Val	Phe	Tyr	Thr	Ile	Phe	Thr	Leu	Ile	Leu	Asn	Pro	Val	Ile	Tyr	Thr	
			275					280					285			
cta	aga	aac	aaa	gaa	gtg	aag	gca	gct	atg	tca	aaa	ctg	aag	agt	cgg	912
Leu	Arg	Asn	Lys	Glu	Val	Lys	Ala	Ala	Met	Ser	Lys	Leu	Lys	Ser	Arg	

290 295 300
 tat ctg aag cct agt cag gtt tct gta gtc ata aga aat gtt ctt ttc 960
 Tyr Leu Lys Pro Ser Gln Val Ser Val Val Ile Arg Asn Val Leu Phe
 305 310 315 320

 cta gaa aca aag taa 975
 Leu Glu Thr Lys

 <210> 352
 <211> 324
 <212> PRT
 <213> Homo Sapiens

 <400> 352

 Met Asn Glu Thr Asn His Ser Arg Val Thr Glu Phe Val Leu Leu Gly
 1 5 10 15

 Leu Ser Ser Ser Arg Glu Leu Gln Pro Phe Leu Phe Leu Thr Phe Ser
 20 25 30

 Leu Leu Tyr Leu Ala Ile Leu Leu Gly Asn Phe Leu Ile Ile Leu Thr
 35 40 45

 Val Thr Ser Asp Ser Arg Leu His Thr Pro Met Tyr Phe Leu Leu Ala
 50 55 60

 Asn Leu Ser Phe Ile Asp Val Cys Val Ala Ser Phe Ala Thr Pro Lys
 65 70 75 80

 Met Ile Ala Asp Phe Leu Val Glu Arg Lys Thr Ile Ser Phe Asp Ala
 85 90 95

 Cys Leu Ala Gln Ile Phe Phe Val His Leu Phe Thr Gly Ser Glu Met
 100 105 110

 Val Leu Leu Val Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys
 115 120 125

 Pro Leu His Tyr Met Thr Val Met Ser Arg Arg Val Cys Val Val Leu
 130 135 140

 Val Leu Ile Ser Trp Phe Val Gly Phe Ile His Thr Thr Ser Gln Leu
 145 150 155 160

 Ala Phe Thr Val Asn Leu Pro Phe Cys Gly Pro Asn Lys Val Asp Ser
 165 170 175

Phe Phe Cys Asp Leu Pro Leu Val Thr Lys Leu Ala Cys Ile Asp Thr
 180 185 190

Tyr Val Val Ser Leu Leu Ile Val Ala Asp Ser Gly Phe Leu Ser Leu
 195 200 205

Ser Ser Phe Leu Leu Leu Val Val Ser Tyr Thr Val Ile Leu Val Thr
 210 215 220

Val Arg Asn Arg Ser Ser Ala Ser Met Ala Lys Ala Arg Ser Thr Leu
 225 230 235 240

Thr Ala His Ile Thr Val Val Thr Leu Phe Phe Gly Pro Cys Ile Phe
 245 250 255

Ile Tyr Val Trp Pro Phe Ser Ser Tyr Ser Val Asp Lys Val Leu Ala
 260 265 270

Val Phe Tyr Thr Ile Phe Thr Leu Ile Leu Asn Pro Val Ile Tyr Thr
 275 280 285

Leu Arg Asn Lys Glu Val Lys Ala Ala Met Ser Lys Leu Lys Ser Arg
 290 295 300

Tyr Leu Lys Pro Ser Gln Val Ser Val Val Ile Arg Asn Val Leu Phe
 305 310 315 320

Leu Glu Thr Lys

<210> 353
 <211> 936
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1) .. (933)
 <223>

<400> 353
 atg gct cac aca aat gaa tcg atg gtg tct gag ttt gta ctt ttg gga 48
 Met Ala His Thr Asn Glu Ser Met Val Ser Glu Phe Val Leu Leu Gly
 1 5 10 15

ctc tct aat tcc tgg gga ctt caa ctt ttc ttt ttt gcc atc ttc tct 96
 Leu Ser Asn Ser Trp Gly Leu Gln Leu Phe Phe Phe Ala Ile Phe Ser
 20 25 30

ata gtc tat gtg aca tca gtg cta ggc aat gtc tta att att gtc att Ile Val Tyr Val Thr Ser Val Leu Gly Asn Val Leu Ile Ile Val Ile 35 40 45	144
att tct ttt gac tcc cat ttg aac tct cct atg tac ttc ttg ctc agt Ile Ser Phe Asp Ser His Leu Asn Ser Pro Met Tyr Phe Leu Leu Ser 50 55 60	192
aat ctt tct ttc att gat atc tgt cag tct aac ttt gcc acc ccc aag Asn Leu Ser Phe Ile Asp Ile Cys Gln Ser Asn Phe Ala Thr Pro Lys 65 70 75 80	240
atg ctt gta gac ttt ttt att gag cgc aag act atc tcc ttt gag ggt Met Leu Val Asp Phe Phe Ile Glu Arg Lys Thr Ile Ser Phe Glu Gly 85 90 95	288
tgc atg gcc cag ata ttc gtt ctt cac agt ttt gtt ggg agt gag atg Cys Met Ala Gln Ile Phe Val Leu His Ser Phe Val Gly Ser Glu Met 100 105 110	336
atg ttg ctt gta gct atg gca tat gac aga ttt ata gcc ata tgt aag Met Leu Leu Val Ala Met Ala Tyr Asp Arg Phe Ile Ala Ile Cys Lys 115 120 125	384
cct ctg cac tac agt aca att atg aac cgg agg ctc tgt gta att ttt Pro Leu His Tyr Ser Thr Ile Met Asn Arg Arg Leu Cys Val Ile Phe 130 135 140	432
gtg tct att tcc tgg gcg gtg ggc gtt ctt cat tct gtg agc cac ttg Val Ser Ile Ser Trp Ala Val Gly Val Leu His Ser Val Ser His Leu 145 150 155 160	480
gct ttt aca gtg gac ctg cca ttc tgt ggt ccc aat gag gtg gat agc Ala Phe Thr Val Asp Leu Pro Phe Cys Gly Pro Asn Glu Val Asp Ser 165 170 175	528
ttc ttt tgt gac ctt ccc ttg gtg ata gag ctg gct tgc atg gat aca Phe Phe Cys Asp Leu Pro Leu Val Ile Glu Leu Ala Cys Met Asp Thr 180 185 190	576
tat gaa atg gaa att atg acc cta acg aac agt ggc ctg ata tca ttg Tyr Glu Met Glu Ile Met Thr Leu Thr Asn Ser Gly Leu Ile Ser Leu 195 200 205	624
agc tgt ttc ctg gct tta att att tcc tac acc atc att ttg atc ggt Ser Cys Phe Leu Ala Leu Ile Ile Ser Tyr Thr Ile Ile Leu Ile Gly 210 215 220	672
gtc cga tgc agg tcc tcc agt ggg tca tct aag gct ctt tct aca tta Val Arg Cys Arg Ser Ser Ser Gly Ser Ser Lys Ala Leu Ser Thr Leu 225 230 235 240	720
act gcc cac atc aca gtg gtc att ctt ttc ttc ggg cct tgc att tat Thr Ala His Ile Thr Val Val Ile Leu Phe Phe Gly Pro Cys Ile Tyr 245 250 255	768
ttc tat ata tgg cct ttt agc aga ctt cct gtg gac aaa ttt ctt tct Phe Tyr Ile Trp Pro Phe Ser Arg Leu Pro Val Asp Lys Phe Leu Ser 260 265 270	816
gtg ttc tac act gtt tgt act ccc ttg ttg aac ccc atc atc tac tct	864

Val Phe Tyr Thr Val Cys Thr Pro Leu Leu Asn Pro Ile Ile Tyr Ser
 275 280 285
 ctg agg aat gaa gat gtt aaa gca gcc atg tgg aag ctg aga aac cgt 912
 Leu Arg Asn Glu Asp Val Lys Ala Ala Met Trp Lys Leu Arg Asn Arg
 290 295 300
 cat gtg aac tcc tgg aaa aac tag 936
 His Val Asn Ser Trp Lys Asn
 305 310
 <210> 354
 <211> 311
 <212> PRT
 <213> Homo Sapiens
 <400> 354
 Met Ala His Thr Asn Glu Ser Met Val Ser Glu Phe Val Leu Leu Gly
 1 5 10 15
 Leu Ser Asn Ser Trp Gly Leu Gln Leu Phe Phe Phe Ala Ile Phe Ser
 20 25 30
 Ile Val Tyr Val Thr Ser Val Leu Gly Asn Val Leu Ile Ile Val Ile
 35 40 45
 Ile Ser Phe Asp Ser His Leu Asn Ser Pro Met Tyr Phe Leu Leu Ser
 50 55 60
 Asn Leu Ser Phe Ile Asp Ile Cys Gln Ser Asn Phe Ala Thr Pro Lys
 65 70 75 80
 Met Leu Val Asp Phe Phe Ile Glu Arg Lys Thr Ile Ser Phe Glu Gly
 85 90 95
 Cys Met Ala Gln Ile Phe Val Leu His Ser Phe Val Gly Ser Glu Met
 100 105 110
 Met Leu Leu Val Ala Met Ala Tyr Asp Arg Phe Ile Ala Ile Cys Lys
 115 120 125
 Pro Leu His Tyr Ser Thr Ile Met Asn Arg Arg Leu Cys Val Ile Phe
 130 135 140
 Val Ser Ile Ser Trp Ala Val Gly Val Leu His Ser Val Ser His Leu
 145 150 155 160
 Ala Phe Thr Val Asp Leu Pro Phe Cys Gly Pro Asn Glu Val Asp Ser
 165 170 175

Phe Phe Cys Asp Leu Pro Leu Val Ile Glu Leu Ala Cys Met Asp Thr
 180 185 190
 Tyr Glu Met Glu Ile Met Thr Leu Thr Asn Ser Gly Leu Ile Ser Leu
 195 200 205
 Ser Cys Phe Leu Ala Leu Ile Ile Ser Tyr Thr Ile Ile Leu Ile Gly
 210 215 220
 Val Arg Cys Arg Ser Ser Ser Gly Ser Ser Lys Ala Leu Ser Thr Leu
 225 230 235 240
 Thr Ala His Ile Thr Val Val Ile Leu Phe Phe Gly Pro Cys Ile Tyr
 245 250 255
 Phe Tyr Ile Trp Pro Phe Ser Arg Leu Pro Val Asp Lys Phe Leu Ser
 260 265 270
 Val Phe Tyr Thr Val Cys Thr Pro Leu Leu Asn Pro Ile Ile Tyr Ser
 275 280 285
 Leu Arg Asn Glu Asp Val Lys Ala Ala Met Trp Lys Leu Arg Asn Arg
 290 295 300
 His Val Asn Ser Trp Lys Asn
 305 310

<210> 355
 <211> 933
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1) .. (930)
 <223>

<400> 355
 atg gac cca cag aac tat tcc ttg gtg tca gaa ttt gtg ttg cat gga 48
 Met Asp Pro Gln Asn Tyr Ser Leu Val Ser Glu Phe Val Leu His Gly
 1 5 10 15
 ctc tgc act tca cga cat ctt caa aat ttt ttc ttt ata ttt ttc ttt 96
 Leu Cys Thr Ser Arg His Leu Gln Asn Phe Phe Phe Ile Phe Phe Phe
 20 25 30
 ggg gtc tat gtg gcc att atg ctg ggt aac ctt ctc att ttg gtc act 144
 Gly Val Tyr Val Ala Ile Met Leu Gly Asn Leu Leu Ile Leu Val Thr
 35 40 45

gta att tct gat ccc tgc ctg cac tcc tcc cct atg tac ttc ctg ctg	192
Val Ile Ser Asp Pro Cys Leu His Ser Ser Pro Met Tyr Phe Leu Leu	
50 55 60	
ggg aac cta gct ttc ctg gac atg tgg ctg gcc tca ttt gcc act ccc	240
Gly Asn Leu Ala Phe Leu Asp Met Trp Leu Ala Ser Phe Ala Thr Pro	
65 70 75 80	
aag atg atc agg gat ttc ctt agt gat caa aaa ctc atc tcc ttt gga	288
Lys Met Ile Arg Asp Phe Leu Ser Asp Gln Lys Leu Ile Ser Phe Gly	
85 90 95	
gga tgt atg gct caa atc ttc ttc ttg cac ttt act ggt ggg gct gag	336
Gly Cys Met Ala Gln Ile Phe Phe Leu His Phe Thr Gly Gly Ala Glu	
100 105 110	
atg gtg ctc ctg gtt tcc atg gcc tat gac aga tat gtg gcc ata tgc	384
Met Val Leu Leu Val Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys	
115 120 125	
aaa ccc ttg cat tac atg act ttg atg agt tgg cag act tgc atc agg	432
Lys Pro Leu His Tyr Met Thr Leu Met Ser Trp Gln Thr Cys Ile Arg	
130 135 140	
ctg gtg ctg gct tca tgg gtc gtt gga ttt gtg cac tcc atc agt caa	480
Leu Val Leu Ala Ser Trp Val Val Gly Phe Val His Ser Ile Ser Gln	
145 150 155 160	
gtg gct ttc act gta aat ttg cct tac tgt ggc ccc aat gag gta gac	528
Val Ala Phe Thr Val Asn Leu Pro Tyr Cys Gly Pro Asn Glu Val Asp	
165 170 175	
agc ttc ttc tgt gac ctc cct ctg gtg atc aaa ctt gcc tgc atg gac	576
Ser Phe Phe Cys Asp Leu Pro Leu Val Ile Lys Leu Ala Cys Met Asp	
180 185 190	
acc tat gtc ttg ggt ata att atg atc tca gac agt ggg ttg ctt tcc	624
Thr Tyr Val Leu Gly Ile Ile Met Ile Ser Asp Ser Gly Leu Leu Ser	
195 200 205	
ttg agc tgt ttt ctg ctc ctc ctg atc tcc tac acc gtg atc ctc ctc	672
Leu Ser Cys Phe Leu Leu Leu Leu Ile Ser Tyr Thr Val Ile Leu Leu	
210 215 220	
gct atc aga cag cgt gct gcc ggt agc aca tcc aaa gca ctc tcc act	720
Ala Ile Arg Gln Arg Ala Ala Gly Ser Thr Ser Lys Ala Leu Ser Thr	
225 230 235 240	
tgc tct gca cat atc atg gta gtg acg ctg ttc ttt ggc cct tgc att	768
Cys Ser Ala His Ile Met Val Val Thr Leu Phe Phe Gly Pro Cys Ile	
245 250 255	
ttt gtt tat gtg cgg cct ttc agt agg ttc tct gtg gac aag ctg ctg	816
Phe Val Tyr Val Arg Pro Phe Ser Arg Phe Ser Val Asp Lys Leu Leu	
260 265 270	
tct gtg ttt tat acc att ttt act cca ctc ctg aac ccc att atc tac	864
Ser Val Phe Tyr Thr Ile Phe Thr Pro Leu Leu Asn Pro Ile Ile Tyr	
275 280 285	

aca ttg aga aat gag gag atg aaa gca gct atg aag aaa ctg caa aac 912
 Thr Leu Arg Asn Glu Glu Met Lys Ala Ala Met Lys Lys Leu Gln Asn
 290 295 300

cga cgg gtg act ttt caa tga 933
 Arg Arg Val Thr Phe Gln
 305 310

<210> 356
 <211> 310
 <212> PRT
 <213> Homo Sapiens

<400> 356

Met Asp Pro Gln Asn Tyr Ser Leu Val Ser Glu Phe Val Leu His Gly
 1 5 10 15

Leu Cys Thr Ser Arg His Leu Gln Asn Phe Phe Phe Ile Phe Phe Phe
 20 25 30

Gly Val Tyr Val Ala Ile Met Leu Gly Asn Leu Leu Ile Leu Val Thr
 35 40 45

Val Ile Ser Asp Pro Cys Leu His Ser Ser Pro Met Tyr Phe Leu Leu
 50 55 60

Gly Asn Leu Ala Phe Leu Asp Met Trp Leu Ala Ser Phe Ala Thr Pro
 65 70 75 80

Lys Met Ile Arg Asp Phe Leu Ser Asp Gln Lys Leu Ile Ser Phe Gly
 85 90 95

Gly Cys Met Ala Gln Ile Phe Phe Leu His Phe Thr Gly Gly Ala Glu
 100 105 110

Met Val Leu Leu Val Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys
 115 120 125

Lys Pro Leu His Tyr Met Thr Leu Met Ser Trp Gln Thr Cys Ile Arg
 130 135 140

Leu Val Leu Ala Ser Trp Val Val Gly Phe Val His Ser Ile Ser Gln
 145 150 155 160

Val Ala Phe Thr Val Asn Leu Pro Tyr Cys Gly Pro Asn Glu Val Asp
 165 170 175

Ser Phe Phe Cys Asp Leu Pro Leu Val Ile Lys Leu Ala Cys Met Asp

180 185 190
 Thr Tyr Val Leu Gly Ile Ile Met Ile Ser Asp Ser Gly Leu Leu Ser
 195 200 205
 Leu Ser Cys Phe Leu Leu Leu Leu Ile Ser Tyr Thr Val Ile Leu Leu
 210 215 220
 Ala Ile Arg Gln Arg Ala Ala Gly Ser Thr Ser Lys Ala Leu Ser Thr
 225 230 235 240
 Cys Ser Ala His Ile Met Val Val Thr Leu Phe Phe Gly Pro Cys Ile
 245 250 255
 Phe Val Tyr Val Arg Pro Phe Ser Arg Phe Ser Val Asp Lys Leu Leu
 260 265 270
 Ser Val Phe Tyr Thr Ile Phe Thr Pro Leu Leu Asn Pro Ile Ile Tyr
 275 280 285
 Thr Leu Arg Asn Glu Glu Met Lys Ala Ala Met Lys Lys Leu Gln Asn
 290 295 300
 Arg Arg Val Thr Phe Gln
 305 310

<210> 357
 <211> 939
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1) .. (936)
 <223>

<400> 357
 atg gat ctt aaa aat gga tct cta gtg acc gag ttt att tta cta gga 48
 Met Asp Leu Lys Asn Gly Ser Leu Val Thr Glu Phe Ile Leu Leu Gly
 1 5 10 15
 ttt ttt gga cga tgg gaa ctt caa att ttc ttc ttt gtg aca ttt tcc 96
 Phe Phe Gly Arg Trp Glu Leu Gln Ile Phe Phe Phe Val Thr Phe Ser
 20 25 30
 ctg atc tac ggt gct act gtg atg gga aac att ctc att atg gtc aca 144
 Leu Ile Tyr Gly Ala Thr Val Met Gly Asn Ile Leu Ile Met Val Thr
 35 40 45
 gtg aca tgt agg tca acc ctt cat tct ccc ttg tac ttt ctc ctt gga 192
 Val Thr Cys Arg Ser Thr Leu His Ser Pro Leu Tyr Phe Leu Leu Gly

50	55	60	
aat ctc tct ttt ttg gac atg tgt ctc tcc act gcc aca aca ccc aag			240
Asn Leu Ser Phe Leu Asp Met Cys Leu Ser Thr Ala Thr Thr Pro Lys			
65	70	75	80
atg atc ata gat ttg ctc act gac cac aag acc atc tct gtg tgg ggc			288
Met Ile Ile Asp Leu Leu Thr Asp His Lys Thr Ile Ser Val Trp Gly			
	85	90	95
tgc gtg acc cag atg ttc ttc atg cac ttc ttt ggg ggt gct gag atg			336
Cys Val Thr Gln Met Phe Phe Met His Phe Phe Gly Gly Ala Glu Met			
	100	105	110
act ctt ctg ata atc atg gcc ttt gac agg tat gta gcc ata tgt aaa			384
Thr Leu Leu Ile Ile Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Lys			
	115	120	125
ccc ctg cac tat agg aca atc atg agc cac aag ctg cta aag ggg ttt			432
Pro Leu His Tyr Arg Thr Ile Met Ser His Lys Leu Leu Lys Gly Phe			
	130	135	140
gcg ata ctt tca tgg ata att ggt ttt tta cac tcc ata agc cag ata			480
Ala Ile Leu Ser Trp Ile Ile Gly Phe Leu His Ser Ile Ser Gln Ile			
	145	150	155
gtt tta aca atg aac ttg cct ttc tgt ggc cac aat gtc ata aac aac			528
Val Leu Thr Met Asn Leu Pro Phe Cys Gly His Asn Val Ile Asn Asn			
	165	170	175
ata ttt tgt gat ctt ccc ctt gtg atc aag ctt gct tgc att gaa aca			576
Ile Phe Cys Asp Leu Pro Leu Val Ile Lys Leu Ala Cys Ile Glu Thr			
	180	185	190
tac acc ctg gaa tta ttt gtc att gct gac agc ggg ctg ctc tct ttc			624
Tyr Thr Leu Glu Leu Phe Val Ile Ala Asp Ser Gly Leu Leu Ser Phe			
	195	200	205
acc tgt ttc atc ctc ttg ctt gtt tct tac att gtc atc ctg gtc agt			672
Thr Cys Phe Ile Leu Leu Leu Val Ser Tyr Ile Val Ile Leu Val Ser			
	210	215	220
gta cca aaa aaa tca tca cat ggg ctc tcc aag gcg ctg tcc aca ttg			720
Val Pro Lys Lys Ser Ser His Gly Leu Ser Lys Ala Leu Ser Thr Leu			
	225	230	235
tct gcc cac atc att gtg gtc act ctg ttc ttt gga cct tgt att ttt			768
Ser Ala His Ile Ile Val Val Thr Leu Phe Phe Gly Pro Cys Ile Phe			
	245	250	255
atc tat gtt tgg cca ttc agt agt ttg gca agc aat aaa act ctt gcc			816
Ile Tyr Val Trp Pro Phe Ser Ser Leu Ala Ser Asn Lys Thr Leu Ala			
	260	265	270
gta ttt tat aca gtt atc aca ccc tta ctg aat ccg agt att tat acc			864
Val Phe Tyr Thr Val Ile Thr Pro Leu Leu Asn Pro Ser Ile Tyr Thr			
	275	280	285
ctg aga aat aag aaa atg caa gag gcc ata aga aaa tta cgg ttc caa			912
Leu Arg Asn Lys Lys Met Gln Glu Ala Ile Arg Lys Leu Arg Phe Gln			
	290	295	300

939

tat gtt agt tct gca cag aat ttc tag
 Tyr Val Ser Ser Ala Gln Asn Phe
 305 310

<210> 358
 <211> 312
 <212> PRT
 <213> Homo Sapiens

<400> 358

Met Asp Leu Lys Asn Gly Ser Leu Val Thr Glu Phe Ile Leu Leu Gly
 1 5 10 15

Phe Phe Gly Arg Trp Glu Leu Gln Ile Phe Phe Phe Val Thr Phe Ser
 20 25 30

Leu Ile Tyr Gly Ala Thr Val Met Gly Asn Ile Leu Ile Met Val Thr
 35 40 45

Val Thr Cys Arg Ser Thr Leu His Ser Pro Leu Tyr Phe Leu Leu Gly
 50 55 60

Asn Leu Ser Phe Leu Asp Met Cys Leu Ser Thr Ala Thr Thr Pro Lys
 65 70 75 80

Met Ile Ile Asp Leu Leu Thr Asp His Lys Thr Ile Ser Val Trp Gly
 85 90 95

Cys Val Thr Gln Met Phe Phe Met His Phe Phe Gly Gly Ala Glu Met
 100 105 110

Thr Leu Leu Ile Ile Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Lys
 115 120 125

Pro Leu His Tyr Arg Thr Ile Met Ser His Lys Leu Leu Lys Gly Phe
 130 135 140

Ala Ile Leu Ser Trp Ile Ile Gly Phe Leu His Ser Ile Ser Gln Ile
 145 150 155 160

Val Leu Thr Met Asn Leu Pro Phe Cys Gly His Asn Val Ile Asn Asn
 165 170 175

Ile Phe Cys Asp Leu Pro Leu Val Ile Lys Leu Ala Cys Ile Glu Thr
 180 185 190

Tyr Thr Leu Glu Leu Phe Val Ile Ala Asp Ser Gly Leu Leu Ser Phe
195 200 205

Thr Cys Phe Ile Leu Leu Leu Val Ser Tyr Ile Val Ile Leu Val Ser
210 215 220

Val Pro Lys Lys Ser Ser His Gly Leu Ser Lys Ala Leu Ser Thr Leu
225 230 235 240

Ser Ala His Ile Ile Val Val Thr Leu Phe Phe Gly Pro Cys Ile Phe
245 250 255

Ile Tyr Val Trp Pro Phe Ser Ser Leu Ala Ser Asn Lys Thr Leu Ala
260 265 270

Val Phe Tyr Thr Val Ile Thr Pro Leu Leu Asn Pro Ser Ile Tyr Thr
275 280 285

Leu Arg Asn Lys Lys Met Gln Glu Ala Ile Arg Lys Leu Arg Phe Gln
290 295 300

Tyr Val Ser Ser Ala Gln Asn Phe
305 310

<210> 359
<211> 927
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<220>
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<400> 359
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Met Ala Met Asp Asn Val Thr Ala Val Phe Gln Phe Leu Leu Ile Gly
1 5 10 15
att tct aac tat cct caa tgg aga gac acg ttt ttc aca tta gtg ctg 96
Ile Ser Asn Tyr Pro Gln Trp Arg Asp Thr Phe Phe Thr Leu Val Leu
20 25 30
ata att tac ctc agc aca ttg ttg ggg aat gga ttt atg atc ttt ctt 144
Ile Ile Tyr Leu Ser Thr Leu Leu Gly Asn Gly Phe Met Ile Phe Leu
35 40 45
att cac ttt gac ccc aac ctc cac act cca atc tac ttc ttc ctt agt 192
Ile His Phe Asp Pro Asn Leu Leu His Thr Pro Ile Tyr Phe Phe Leu Ser
50 55 60
aac ctg tct ttc tta gac ctt tgt tat gga aca gct tcc atg ccc cag 240

Asn	Leu	Ser	Phe	Leu	Asp	Leu	Cys	Tyr	Gly	Thr	Ala	Ser	Met	Pro	Gln	
65					70					75					80	
gct	ttg	gtg	cat	tgt	ttc	tct	acc	cat	ccc	tac	ctc	tct	tat	ccc	cga	288
Ala	Leu	Val	His	Cys	Phe	Ser	Thr	His	Pro	Tyr	Leu	Ser	Tyr	Pro	Arg	
				85					90					95		
tgt	ttg	gct	caa	acg	agt	gtc	tcc	ttg	gct	ttg	gcc	aca	gca	gag	tgc	336
Cys	Leu	Ala	Gln	Thr	Ser	Val	Ser	Leu	Ala	Leu	Ala	Thr	Ala	Glu	Cys	
			100					105					110			
ctc	cta	ctg	gct	gcc	atg	gcc	tat	gac	cgt	gtg	ggt	gct	atc	agc	aat	384
Leu	Leu	Leu	Ala	Ala	Met	Ala	Tyr	Asp	Arg	Val	Val	Ala	Ile	Ser	Asn	
			115				120						125			
ccc	ctg	cgt	tat	tca	gtg	ggt	atg	aat	ggc	cca	gtg	tgt	gtc	tgc	ttg	432
Pro	Leu	Arg	Tyr	Ser	Val	Val	Met	Asn	Gly	Pro	Val	Cys	Val	Cys	Leu	
	130					135					140					
ggt	gct	acc	tca	tgg	ggg	aca	tca	ctt	gtg	ctc	act	gcc	atg	ctc	atc	480
Val	Ala	Thr	Ser	Trp	Gly	Thr	Ser	Leu	Val	Leu	Thr	Ala	Met	Leu	Ile	
145					150					155					160	
cta	tcc	ctg	agg	ctt	cac	ttc	tgt	ggg	gct	aat	gtc	atc	aac	cat	ttt	528
Leu	Ser	Leu	Arg	Leu	His	Phe	Cys	Gly	Ala	Asn	Val	Ile	Asn	His	Phe	
				165					170					175		
gcc	tgt	gag	att	ctc	tcc	ctc	att	aag	ctg	acc	tgt	tct	gat	acc	agc	576
Ala	Cys	Glu	Ile	Leu	Ser	Leu	Ile	Lys	Leu	Thr	Cys	Ser	Asp	Thr	Ser	
			180					185					190			
ctc	aat	gaa	ttt	atg	atc	ctc	atc	acc	agt	atc	ttc	acc	ctg	ctg	cta	624
Leu	Asn	Glu	Phe	Met	Ile	Leu	Ile	Thr	Ser	Ile	Phe	Thr	Leu	Leu	Leu	
		195					200					205				
cca	ttt	ggg	ttt	ggt	ctc	ctc	tcc	tac	ata	cga	att	gct	atg	gct	atc	672
Pro	Phe	Gly	Phe	Val	Leu	Leu	Ser	Tyr	Ile	Arg	Ile	Ala	Met	Ala	Ile	
	210					215					220					
ata	agg	att	cgc	tca	ctc	cag	ggc	agg	ctc	aag	gcc	ttt	acc	aca	tgt	720
Ile	Arg	Ile	Arg	Ser	Leu	Gln	Gly	Arg	Leu	Lys	Ala	Phe	Thr	Thr	Cys	
225					230					235					240	
ggc	tct	cac	ctg	acc	gtg	gtg	aca	atc	ttc	tat	ggg	tca	gcc	atc	tcc	768
Gly	Ser	His	Leu	Thr	Val	Val	Thr	Ile	Phe	Tyr	Gly	Ser	Ala	Ile	Ser	
				245					250					255		
atg	tat	atg	aaa	act	cag	tcc	aag	tcc	tcc	cct	gac	cag	gac	aag	ttt	816
Met	Tyr	Met	Lys	Thr	Gln	Ser	Lys	Ser	Ser	Pro	Asp	Gln	Asp	Lys	Phe	
			260					265					270			
atc	tca	gtg	ttt	tat	gga	gct	ttg	aca	ccc	atg	ttg	aac	ccc	ctg	ata	864
Ile	Ser	Val	Phe	Tyr	Gly	Ala	Leu	Thr	Pro	Met	Leu	Asn	Pro	Leu	Ile	
		275					280					285				
tat	agc	ctg	aga	aaa	aaa	gat	ggt	aaa	cgg	gca	ata	agg	aaa	ggt	atg	912
Tyr	Ser	Leu	Arg	Lys	Lys	Asp	Val	Lys	Arg	Ala	Ile	Arg	Lys	Val	Met	
		290				295					300					
ttg	aaa	agg	aca	tga												927
Leu	Lys	Arg	Thr													

305

<210> 360
 <211> 308
 <212> PRT
 <213> Homo Sapiens

<400> 360

Met Ala Met Asp Asn Val Thr Ala Val Phe Gln Phe Leu Leu Ile Gly
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Ile Ser Asn Tyr Pro Gln Trp Arg Asp Thr Phe Phe Thr Leu Val Leu
 20 25 30

Ile Ile Tyr Leu Ser Thr Leu Leu Gly Asn Gly Phe Met Ile Phe Leu
 35 40 45

Ile His Phe Asp Pro Asn Leu His Thr Pro Ile Tyr Phe Phe Leu Ser
 50 55 60

Asn Leu Ser Phe Leu Asp Leu Cys Tyr Gly Thr Ala Ser Met Pro Gln
 65 70 75 80

Ala Leu Val His Cys Phe Ser Thr His Pro Tyr Leu Ser Tyr Pro Arg
 85 90 95

Cys Leu Ala Gln Thr Ser Val Ser Leu Ala Leu Ala Thr Ala Glu Cys
 100 105 110

Leu Leu Leu Ala Ala Met Ala Tyr Asp Arg Val Val Ala Ile Ser Asn
 115 120 125

Pro Leu Arg Tyr Ser Val Val Met Asn Gly Pro Val Cys Val Cys Leu
 130 135 140

Val Ala Thr Ser Trp Gly Thr Ser Leu Val Leu Thr Ala Met Leu Ile
 145 150 155 160

Leu Ser Leu Arg Leu His Phe Cys Gly Ala Asn Val Ile Asn His Phe
 165 170 175

Ala Cys Glu Ile Leu Ser Leu Ile Lys Leu Thr Cys Ser Asp Thr Ser
 180 185 190

Leu Asn Glu Phe Met Ile Leu Ile Thr Ser Ile Phe Thr Leu Leu Leu
 195 200 205

Pro Phe Gly Phe Val Leu Leu Ser Tyr Ile Arg Ile Ala Met Ala Ile
 210 215 220

Ile Arg Ile Arg Ser Leu Gln Gly Arg Leu Lys Ala Phe Thr Thr Cys
 225 230 235 240

Gly Ser His Leu Thr Val Val Thr Ile Phe Tyr Gly Ser Ala Ile Ser
 245 250 255

Met Tyr Met Lys Thr Gln Ser Lys Ser Ser Pro Asp Gln Asp Lys Phe
 260 265 270

Ile Ser Val Phe Tyr Gly Ala Leu Thr Pro Met Leu Asn Pro Leu Ile
 275 280 285

Tyr Ser Leu Arg Lys Lys Asp Val Lys Arg Ala Ile Arg Lys Val Met
 290 295 300

Leu Lys Arg Thr
 305

<210> 361
 <211> 900
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<220>
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<400> 361	
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Met Glu Pro Arg Lys Asn Val Thr Asp Phe Val Leu Leu Gly Phe Thr	
1 5 10 15	
cag aat cca aag gag cag aaa gta ctt ttt gtt atg ttc ttg ctc ttc	96
Gln Asn Pro Lys Glu Gln Lys Val Leu Phe Val Met Phe Leu Leu Phe	
20 25 30	
tac att ttg acc atg gtg ggc aac ctg ctc att gta gtg acc gta act	144
Tyr Ile Leu Thr Met Val Gly Asn Leu Leu Ile Val Val Thr Val Thr	
35 40 45	
gtc agt gag acc ctg ggc tca cca atg tcc ttc ttt ctt gct ggc tta	192
Val Ser Glu Thr Leu Gly Ser Pro Met Ser Phe Phe Leu Ala Gly Leu	
50 55 60	
aca ttt ata gat atc att tat tct tca tcc att tcc ccc aga ttg att	240
Thr Phe Ile Asp Ile Ile Tyr Ser Ser Ser Ile Ser Pro Arg Leu Ile	
65 70 75 80	

tca gac ttg ttc ttt ggg aat aat tcc ata tcc ttc caa tct ttc atg 288
 Ser Asp Leu Phe Phe Gly Asn Asn Ser Ile Ser Phe Gln Ser Phe Met
 85 90 95
 gcc cag ctc ttt atc gag cac ctt ttt ggt ggg tca gag gtc ttt ctc 336
 Ala Gln Leu Phe Ile Glu His Leu Phe Gly Gly Ser Glu Val Phe Leu
 100 105 110
 ctg ttg gtg atg gcc tat gac cgc tat gtg gcc atc tgt aag ccc ttg 384
 Leu Leu Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu
 115 120 125
 cat tat ttg gtt atc atg aga caa tgg gtg tgt gtt ttg ctg ctg gta 432
 His Tyr Leu Val Ile Met Arg Gln Trp Val Cys Val Leu Leu Leu Val
 130 135 140
 gtg tcc tgg gtt gga gga ttt ctg caa tca gta ttt caa ctt agc att 480
 Val Ser Trp Val Gly Gly Phe Leu Gln Ser Val Phe Gln Leu Ser Ile
 145 150 155 160
 att tat ggg ctc cca ttc tgt ggc ccc aat gtc att gat cat ttt ttc 528
 Ile Tyr Gly Leu Pro Phe Cys Gly Pro Asn Val Ile Asp His Phe Phe
 165 170 175
 tgt gac atg tat ccc tta ttg aaa ctg gcc tgc act gac acc cat gtt 576
 Cys Asp Met Tyr Pro Leu Leu Lys Leu Ala Cys Thr Asp Thr His Val
 180 185 190
 att ggc ctc tta gtg gtg gcc aat gga gga ctg tct tgc act att gcg 624
 Ile Gly Leu Leu Val Val Ala Asn Gly Gly Leu Ser Cys Thr Ile Ala
 195 200 205
 ttt ctg ctc tta ctc atc tct tat ggt gtc atc ctg cac tct cta aag 672
 Phe Leu Leu Leu Leu Ile Ser Tyr Gly Val Ile Leu His Ser Leu Lys
 210 215 220
 aaa ctt agt cag aaa ggg agg caa aaa gcc cac tca acc tgc agt tcc 720
 Lys Leu Ser Gln Lys Gly Arg Gln Lys Ala His Ser Thr Cys Ser Ser
 225 230 235 240
 cac atc act gtg gtt gtc ttc ttc ttt gtt cct tgt att ttt atg tgt 768
 His Ile Thr Val Val Val Phe Phe Phe Val Pro Cys Ile Phe Met Cys
 245 250 255
 gct aga cct gct agg acc ttc tcc att gac aaa tca gtg agt gtg ttt 816
 Ala Arg Pro Ala Arg Thr Phe Ser Ile Asp Lys Ser Val Ser Val Phe
 260 265 270
 tat aca gtc ata acc cca atg ctg aac ccc tta atc tac act ctg aga 864
 Tyr Thr Val Ile Thr Pro Met Leu Asn Pro Leu Ile Tyr Thr Leu Arg
 275 280 285
 aat tct gag atg aca agt gct atg aag aag ctt tag 900
 Asn Ser Glu Met Thr Ser Ala Met Lys Lys Leu
 290 295

<210> 362
 <211> 299
 <212> PRT
 <213> Homo Sapiens

<400> 362

Met Glu Pro Arg Lys Asn Val Thr Asp Phe Val Leu Leu Gly Phe Thr
 1 5 10 15

Gln Asn Pro Lys Glu Gln Lys Val Leu Phe Val Met Phe Leu Leu Phe
 20 25 30

Tyr Ile Leu Thr Met Val Gly Asn Leu Leu Ile Val Val Thr Val Thr
 35 40 45

Val Ser Glu Thr Leu Gly Ser Pro Met Ser Phe Phe Leu Ala Gly Leu
 50 55 60

Thr Phe Ile Asp Ile Ile Tyr Ser Ser Ser Ile Ser Pro Arg Leu Ile
 65 70 75 80

Ser Asp Leu Phe Phe Gly Asn Asn Ser Ile Ser Phe Gln Ser Phe Met
 85 90 95

Ala Gln Leu Phe Ile Glu His Leu Phe Gly Gly Ser Glu Val Phe Leu
 100 105 110

Leu Leu Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu
 115 120 125

His Tyr Leu Val Ile Met Arg Gln Trp Val Cys Val Leu Leu Leu Val
 130 135 140

Val Ser Trp Val Gly Gly Phe Leu Gln Ser Val Phe Gln Leu Ser Ile
 145 150 155 160

Ile Tyr Gly Leu Pro Phe Cys Gly Pro Asn Val Ile Asp His Phe Phe
 165 170 175

Cys Asp Met Tyr Pro Leu Leu Lys Leu Ala Cys Thr Asp Thr His Val
 180 185 190

Ile Gly Leu Leu Val Val Ala Asn Gly Gly Leu Ser Cys Thr Ile Ala
 195 200 205

Phe Leu Leu Leu Leu Ile Ser Tyr Gly Val Ile Leu His Ser Leu Lys
 210 215 220

Lys Leu Ser Gln Lys Gly Arg Gln Lys Ala His Ser Thr Cys Ser Ser
 225 230 235 240

His Ile Thr Val Val Val Phe Phe Phe Val Pro Cys Ile Phe Met Cys
245 250 255

Ala Arg Pro Ala Arg Thr Phe Ser Ile Asp Lys Ser Val Ser Val Phe
260 265 270

Tyr Thr Val Ile Thr Pro Met Leu Asn Pro Leu Ile Tyr Thr Leu Arg
275 280 285

Asn Ser Glu Met Thr Ser Ala Met Lys Lys Leu
290 295

<210> 363
<211> 948
<212> DNA
<213> Homo Sapiens

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<223>

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Met Arg Gln Asn Asn Asn Ile Thr Glu Phe Val Leu Leu Gly Phe Ser
1 5 10 15
cag gat cct ggt gtg caa aaa gca tta ttt gtc atg ttt tta ctc aca 96
Gln Asp Pro Gly Val Gln Lys Ala Leu Phe Val Met Phe Leu Leu Thr
20 25 30
tac ttg gtg aca gtg gtg ggg aac ctg ctc att gtg gtg gat att att 144
Tyr Leu Val Thr Val Val Gly Asn Leu Leu Ile Val Val Asp Ile Ile
35 40 45
gcc agc cct tcc ttg ggt tcc cca atg tat ttc ttc ctt gcc tgc ctg 192
Ala Ser Pro Ser Leu Gly Ser Pro Met Tyr Phe Phe Leu Ala Cys Leu
50 55 60
tca ttt ata gat gct gca tat tcc act acc att tct ccc aag tta att 240
Ser Phe Ile Asp Ala Ala Tyr Ser Thr Thr Ile Ser Pro Lys Leu Ile
65 70 75 80
gta ggc tta ttc tgt gat aaa aag act att tcc ttc caa ggt tgc atg 288
Val Gly Leu Phe Cys Asp Lys Lys Thr Ile Ser Phe Gln Gly Cys Met
85 90 95
ggc cag cta ttt ata gac cat ttc ttt ggt ggg gct gag gtc ttc ctt 336
Gly Gln Leu Phe Ile Asp His Phe Phe Gly Gly Ala Glu Val Phe Leu
100 105 110
ctg gtg gtg atg gcc tgt gat cgc tat gtg gcc atc tgt aag cca ctg 384
Leu Val Val Met Ala Cys Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu
115 120 125

cac tat ttg acc atc atg aat cga cag gtt tgc ttc ctt ctg ttg gtg 432
 His Tyr Leu Thr Ile Met Asn Arg Gln Val Cys Phe Leu Leu Leu Val
 130 135 140

gtg gcc atg att gga ggt ttt gta cat tct gcg ttt caa att gtt gtg 480
 Val Ala Met Ile Gly Gly Phe Val His Ser Ala Phe Gln Ile Val Val
 145 150 155 160

tac agt ctc cct atc tgt ggt ccc aat gtc att gtt cat ttc agt tgt 528
 Tyr Ser Leu Pro Ile Cys Gly Pro Asn Val Ile Val His Phe Ser Cys
 165 170 175

gac atg cac cca tta ctg gaa ctg gca tgc act gac acc tac ttt ata 576
 Asp Met His Pro Leu Leu Glu Leu Ala Cys Thr Asp Thr Tyr Phe Ile
 180 185 190

ggc ctc act gtt gtt gtc aat agt gga gca atc tgt atg gtc att ttc 624
 Gly Leu Thr Val Val Val Asn Ser Gly Ala Ile Cys Met Val Ile Phe
 195 200 205

aac ctt ctg tta atc tcc tat gga gtc atc cta agc tcc ctt aaa act 672
 Asn Leu Leu Leu Ile Ser Tyr Gly Val Ile Leu Ser Ser Leu Lys Thr
 210 215 220

tac agt cag gaa aag agg ggt aaa gcc ttg tct acc tgc agc tcc ggc 720
 Tyr Ser Gln Glu Lys Arg Gly Lys Ala Leu Ser Thr Cys Ser Ser Gly
 225 230 235 240

agt acc gtt gtt gtc ctc ttt ttt gta ccc tgt att ttc ata tat gtt 768
 Ser Thr Val Val Val Leu Phe Phe Val Pro Cys Ile Phe Ile Tyr Val
 245 250 255

aga cct gtt tca aac ttt cct act gat aag ttc atg act gtg ttt tat 816
 Arg Pro Val Ser Asn Phe Pro Thr Asp Lys Phe Met Thr Val Phe Tyr
 260 265 270

acc att atc aca cac atg ctg agt cct tta ata tat acg ttg aga aat 864
 Thr Ile Ile Thr His Met Leu Ser Pro Leu Ile Tyr Thr Leu Arg Asn
 275 280 285

tca gag atg aga aat gct ata gaa aaa ctc ttg ggt aaa aag tta act 912
 Ser Glu Met Arg Asn Ala Ile Glu Lys Leu Leu Gly Lys Lys Leu Thr
 290 295 300

ata ttt att ata gga gga gtg tcc gtc ctc atg tag 948
 Ile Phe Ile Ile Gly Gly Val Ser Val Leu Met
 305 310 315

<210> 364
 <211> 315
 <212> PRT
 <213> Homo Sapiens

<400> 364

Met Arg Gln Asn Asn Asn Ile Thr Glu Phe Val Leu Leu Gly Phe Ser
 1 5 10 15

Gln Asp Pro Gly Val Gln Lys Ala Leu Phe Val Met Phe Leu Leu Thr
 20 25 30
 Tyr Leu Val Thr Val Val Gly Asn Leu Leu Ile Val Val Asp Ile Ile
 35 40 45
 Ala Ser Pro Ser Leu Gly Ser Pro Met Tyr Phe Phe Leu Ala Cys Leu
 50 55 60
 Ser Phe Ile Asp Ala Ala Tyr Ser Thr Thr Ile Ser Pro Lys Leu Ile
 65 70 75 80
 Val Gly Leu Phe Cys Asp Lys Lys Thr Ile Ser Phe Gln Gly Cys Met
 85 90 95
 Gly Gln Leu Phe Ile Asp His Phe Phe Gly Gly Ala Glu Val Phe Leu
 100 105 110
 Leu Val Val Met Ala Cys Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu
 115 120 125
 His Tyr Leu Thr Ile Met Asn Arg Gln Val Cys Phe Leu Leu Leu Val
 130 135 140
 Val Ala Met Ile Gly Gly Phe Val His Ser Ala Phe Gln Ile Val Val
 145 150 155 160
 Tyr Ser Leu Pro Ile Cys Gly Pro Asn Val Ile Val His Phe Ser Cys
 165 170 175
 Asp Met His Pro Leu Leu Glu Leu Ala Cys Thr Asp Thr Tyr Phe Ile
 180 185 190
 Gly Leu Thr Val Val Val Asn Ser Gly Ala Ile Cys Met Val Ile Phe
 195 200 205
 Asn Leu Leu Leu Ile Ser Tyr Gly Val Ile Leu Ser Ser Leu Lys Thr
 210 215 220
 Tyr Ser Gln Glu Lys Arg Gly Lys Ala Leu Ser Thr Cys Ser Ser Gly
 225 230 235 240
 Ser Thr Val Val Val Leu Phe Phe Val Pro Cys Ile Phe Ile Tyr Val
 245 250 255
 Arg Pro Val Ser Asn Phe Pro Thr Asp Lys Phe Met Thr Val Phe Tyr

260	265	270	
Thr Ile Ile Thr His Met Leu Ser Pro Leu Ile Tyr Thr Leu Arg Asn			
275	280	285	
Ser Glu Met Arg Asn Ala Ile Glu Lys Leu Leu Gly Lys Lys Leu Thr			
290	295	300	
Ile Phe Ile Ile Gly Gly Val Ser Val Leu Met			
305	310	315	
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<211>	1044		
<212>	DNA		
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Met Gly Asn Trp Thr Ala Ala Val Thr Glu Phe Val Leu Leu Gly Phe			
1 5 10 15			
tcc ctg agc agg gag gtg gag ctg ctg ctc ctg gtg ctc ctg ctg ccc			96
Ser Leu Ser Arg Glu Val Glu Leu Leu Leu Val Leu Leu Leu Pro			
20 25 30			
acg ttc ctg ctg act ctt ctg ggg aac ctg ctc atc atc tcc act gtg			144
Thr Phe Leu Leu Thr Leu Leu Gly Asn Leu Leu Ile Ile Ser Thr Val			
35 40 45			
ctg tcc tgc tcc cgc ctc cac acc ccc atg tac ttc ttc ttg tgc aac			192
Leu Ser Cys Ser Arg Leu His Thr Pro Met Tyr Phe Phe Leu Cys Asn			
50 55 60			
ctc tct atc ctg gac atc ctc ttc acc tca gtc atc tct cca aaa gtg			240
Leu Ser Ile Leu Asp Ile Leu Phe Thr Ser Val Ile Ser Pro Lys Val			
65 70 75 80			
ttg gcc aac tta gga tct agg gat aaa acc atc tcc ttt gcc gga tgt			288
Leu Ala Asn Leu Gly Ser Arg Asp Lys Thr Ile Ser Phe Ala Gly Cys			
85 90 95			
atc acc cag tgc tat ttc tac ttt ttc ttg ggc aca gtt gag ttc ctc			336
Ile Thr Gln Cys Tyr Phe Tyr Phe Phe Leu Gly Thr Val Glu Phe Leu			
100 105 110			
ctg ctg acg gtc atg tcc tat gac cgt tat gcc acc atc tgc tgc ccc			384
Leu Leu Thr Val Met Ser Tyr Asp Arg Tyr Ala Thr Ile Cys Cys Pro			
115 120 125			
ctg cgg tac acc acc atc atg aga cct tct gtc tgc att ggg acc gtt			432
Leu Arg Tyr Thr Thr Ile Met Arg Pro Ser Val Cys Ile Gly Thr Val			

130	135	140	
gta ttc tct tgg gtg gga ggc ttc ctg tct gtg ctc ttt cca acc atc			480
Val Phe Ser Trp Val Gly Gly Phe Leu Ser Val Leu Phe Pro Thr Ile			
145	150	155	160
ctc atc tcc cag ctg ccc ttc tgt ggc tcc aat atc att aac cac ttc			528
Leu Ile Ser Gln Leu Pro Phe Cys Gly Ser Asn Ile Ile Asn His Phe			
	165	170	175
ttc tgt gac agt gga ccc ttg ctg gcc ctg gcc tgt gca gac acc act			576
Phe Cys Asp Ser Gly Pro Leu Leu Ala Leu Ala Cys Ala Asp Thr Thr			
	180	185	190
gcc atc gag ctg atg gat ttt atg ctt tct tcc atg gtc atc ctc tgc			624
Ala Ile Glu Leu Met Asp Phe Met Leu Ser Ser Met Val Ile Leu Cys			
	195	200	205
tgc ata gtc ctc gtg gcc tat tcc tat acg tac atc atc ttg acc ata			672
Cys Ile Val Leu Val Ala Tyr Ser Tyr Thr Tyr Ile Ile Leu Thr Ile			
	210	215	220
gtg cgc att cct tct gca agt gga agg aag aag gcc ttt aat acc tgt			720
Val Arg Ile Pro Ser Ala Ser Gly Arg Lys Lys Ala Phe Asn Thr Cys			
	225	230	240
gct tcc cac ctg acc ata gtc atc att cct agt ggc atc act gtg ttt			768
Ala Ser His Leu Thr Ile Val Ile Ile Pro Ser Gly Ile Thr Val Phe			
	245	250	255
atc tat gtg act ccc tcc cag aaa gaa tat ctg gag atc aac aag atc			816
Ile Tyr Val Thr Pro Ser Gln Lys Glu Tyr Leu Glu Ile Asn Lys Ile			
	260	265	270
cct ttg gtt ctg agc agt gtg gtg act cca ttc ctc aac ccc ttt ata			864
Pro Leu Val Leu Ser Ser Val Val Thr Pro Phe Leu Asn Pro Phe Ile			
	275	280	285
tat act ctg agg aat gac aca gtg cag gga gtc ctc agg gat gtg tgg			912
Tyr Thr Leu Arg Asn Asp Thr Val Gln Gly Val Leu Arg Asp Val Trp			
	290	295	300
gtc agg gtt cga gga gtt ttt gaa aag agg atg agg gca gtg ctg aga			960
Val Arg Val Arg Gly Val Phe Glu Lys Arg Met Arg Ala Val Leu Arg			
	305	310	320
agc aga tta tcc tcc aac aaa gac cac caa gga agg gct tgc tct tct			1008
Ser Arg Leu Ser Ser Asn Lys Asp His Gln Gly Arg Ala Cys Ser Ser			
	325	330	335
cca cca tgt gtc tat tct gta aag ctc cag tgt tag			1044
Pro Pro Cys Val Tyr Ser Val Lys Leu Gln Cys			
	340	345	

<210> 366

<211> 347

<212> PRT

<213> Homo Sapiens

<400> 366

Met Gly Asn Trp Thr Ala Ala Val Thr Glu Phe Val Leu Leu Gly Phe
 1 5 10 15
 Ser Leu Ser Arg Glu Val Glu Leu Leu Leu Val Leu Leu Leu Pro
 20 25 30
 Thr Phe Leu Leu Thr Leu Leu Gly Asn Leu Leu Ile Ile Ser Thr Val
 35 40 45
 Leu Ser Cys Ser Arg Leu His Thr Pro Met Tyr Phe Phe Leu Cys Asn
 50 55 60
 Leu Ser Ile Leu Asp Ile Leu Phe Thr Ser Val Ile Ser Pro Lys Val
 65 70 75 80
 Leu Ala Asn Leu Gly Ser Arg Asp Lys Thr Ile Ser Phe Ala Gly Cys
 85 90 95
 Ile Thr Gln Cys Tyr Phe Tyr Phe Phe Leu Gly Thr Val Glu Phe Leu
 100 105 110
 Leu Leu Thr Val Met Ser Tyr Asp Arg Tyr Ala Thr Ile Cys Cys Pro
 115 120 125
 Leu Arg Tyr Thr Thr Ile Met Arg Pro Ser Val Cys Ile Gly Thr Val
 130 135 140
 Val Phe Ser Trp Val Gly Gly Phe Leu Ser Val Leu Phe Pro Thr Ile
 145 150 155 160
 Leu Ile Ser Gln Leu Pro Phe Cys Gly Ser Asn Ile Ile Asn His Phe
 165 170 175
 Phe Cys Asp Ser Gly Pro Leu Leu Ala Leu Ala Cys Ala Asp Thr Thr
 180 185 190
 Ala Ile Glu Leu Met Asp Phe Met Leu Ser Ser Met Val Ile Leu Cys
 195 200 205
 Cys Ile Val Leu Val Ala Tyr Ser Tyr Thr Tyr Ile Ile Leu Thr Ile
 210 215 220
 Val Arg Ile Pro Ser Ala Ser Gly Arg Lys Lys Ala Phe Asn Thr Cys
 225 230 235 240

Ala Ser His Leu Thr Ile Val Ile Ile Pro Ser Gly Ile Thr Val Phe
245 250 255

Ile Tyr Val Thr Pro Ser Gln Lys Glu Tyr Leu Glu Ile Asn Lys Ile
260 265 270

Pro Leu Val Leu Ser Ser Val Val Thr Pro Phe Leu Asn Pro Phe Ile
275 280 285

Tyr Thr Leu Arg Asn Asp Thr Val Gln Gly Val Leu Arg Asp Val Trp
290 295 300

Val Arg Val Arg Gly Val Phe Glu Lys Arg Met Arg Ala Val Leu Arg
305 310 315 320

Ser Arg Leu Ser Ser Asn Lys Asp His Gln Gly Arg Ala Cys Ser Ser
325 330 335

Pro Pro Cys Val Tyr Ser Val Lys Leu Gln Cys
340 345

<210> 367
<211> 942
<212> DNA
<213> Homo Sapiens

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<222> (1)..(939)
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Met Ala Gly Glu Asn His Thr Thr Leu Pro Glu Phe Leu Leu Leu Gly
1 5 10 15
ttc tct gac ctc aag gcc ctg cag ggc ccc ctg ttc tgg gtg gtg ctt 96
Phe Ser Asp Leu Lys Ala Leu Gln Gly Pro Leu Phe Trp Val Val Leu
20 25 30
ctg gtc tac ctg gtc acc ttg ctg ggt aac tcc ctg atc atc ctc ctc 144
Leu Val Tyr Leu Val Thr Leu Leu Gly Asn Ser Leu Ile Ile Leu Leu
35 40 45
aca cag gtc agc cct gcc ctg cac tcc ccc atg tac ttc ttc ctg cgc 192
Thr Gln Val Ser Pro Ala Leu His Ser Pro Met Tyr Phe Phe Leu Arg
50 55 60
caa ctc tca gtg gtg gag ctc ttc tac acc act gac atc gtg ccc agg 240
Gln Leu Ser Val Val Glu Leu Phe Tyr Thr Thr Asp Ile Val Pro Arg
65 70 75 80
acc ctg gcc aat ctg ggc tcc ccg cat ccc cag gcc atc tct ttc cag 288

Thr	Leu	Ala	Asn	Leu	Gly	Ser	Pro	His	Pro	Gln	Ala	Ile	Ser	Phe	Gln		
			85						90					95			
ggc	tgt	gca	gcc	cag	atg	tac	gtc	ttc	att	gtc	ctg	ggc	atc	tcg	gag	336	
Gly	Cys	Ala	Ala	Gln	Met	Tyr	Val	Phe	Ile	Val	Leu	Gly	Ile	Ser	Glu		
			100					105					110				
tgc	tgc	ctg	ctc	acg	gcc	atg	gcc	tat	gac	cga	tat	gtt	gcc	atc	tgc	384	
Cys	Cys	Leu	Leu	Thr	Ala	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys		
		115					120					125					
cag	ccc	cta	cgc	tat	tcc	acc	ctc	ttg	agc	cca	cgg	gcc	tgc	ttg	gcc	432	
Gln	Pro	Leu	Arg	Tyr	Ser	Thr	Leu	Leu	Ser	Pro	Arg	Ala	Cys	Leu	Ala		
	130					135					140						
atg	gtg	ggg	tcc	tcc	tgg	ctc	aca	ggc	atc	atc	acg	gcc	acc	acc	cat	480	
Met	Val	Gly	Ser	Ser	Trp	Leu	Thr	Gly	Ile	Ile	Thr	Ala	Thr	Thr	His		
	145				150				155						160		
gcc	tcc	ctc	atc	ttc	tct	cta	cct	ttt	cgc	agc	cac	ccg	atc	atc	ccg	528	
Ala	Ser	Leu	Ile	Phe	Ser	Leu	Pro	Phe	Arg	Ser	His	Pro	Ile	Ile	Pro		
			165					170						175			
cac	ttt	ctc	tgt	gac	atc	ctg	cca	gta	ctg	agg	ctg	gca	agt	gct	ggg	576	
His	Phe	Leu	Cys	Asp	Ile	Leu	Pro	Val	Leu	Arg	Leu	Ala	Ser	Ala	Gly		
		180					185					190					
aag	cac	agg	agc	gag	atc	tcc	gtg	atg	aca	gcc	acc	ata	gtc	ttc	att	624	
Lys	His	Arg	Ser	Glu	Ile	Ser	Val	Met	Thr	Ala	Thr	Ile	Val	Phe	Ile		
		195				200						205					
atg	atc	ccc	ttc	tct	ctg	att	gtc	acc	tct	tac	atc	cgc	atc	ctg	ggt	672	
Met	Ile	Pro	Phe	Ser	Leu	Ile	Val	Thr	Ser	Tyr	Ile	Arg	Ile	Leu	Gly		
	210				215						220						
gcc	atc	cta	gca	atg	gcc	tcc	acc	cag	agc	cgc	cgc	aag	gtc	ttc	tcc	720	
Ala	Ile	Leu	Ala	Met	Ala	Ser	Thr	Gln	Ser	Arg	Arg	Lys	Val	Phe	Ser		
	225				230				235					240			
acc	tgc	tcc	tcc	cat	ctg	ctc	gtg	gtc	tct	ctc	ttc	ttt	gga	aca	gcc	768	
Thr	Cys	Ser	Ser	His	Leu	Leu	Val	Val	Ser	Leu	Phe	Phe	Gly	Thr	Ala		
				245				250					255				
agc	atc	acc	tac	atc	cgg	ccg	cag	gca	ggc	tcc	tct	gtt	acc	aca	gac	816	
Ser	Ile	Thr	Tyr	Ile	Arg	Pro	Gln	Ala	Gly	Ser	Ser	Val	Thr	Thr	Asp		
		260					265					270					
cgc	gtc	ctc	agt	ctc	ttc	tac	aca	gtc	atc	aca	ccc	atg	ctc	aac	ccc	864	
Arg	Val	Leu	Ser	Leu	Phe	Tyr	Thr	Val	Ile	Thr	Pro	Met	Leu	Asn	Pro		
		275				280						285					
atc	atc	tac	acc	ctt	cgg	aac	aag	gac	gtg	agg	agg	gcc	ctg	cga	cac	912	
Ile	Ile	Tyr	Thr	Leu	Arg	Asn	Lys	Asp	Val	Arg	Arg	Ala	Leu	Arg	His		
	290				295				300								
ttg	gtg	aag	agg	cag	cgc	ccc	tca	ccc	tga							942	
Leu	Val	Lys	Arg	Gln	Arg	Pro	Ser	Pro									
	305			310													

<210> 368

<211> 313
 <212> PRT
 <213> Homo Sapiens

<400> 368

Met Ala Gly Glu Asn His Thr Thr Leu Pro Glu Phe Leu Leu Leu Gly
 1 5 10 15

Phe Ser Asp Leu Lys Ala Leu Gln Gly Pro Leu Phe Trp Val Val Leu
 20 25 30

Leu Val Tyr Leu Val Thr Leu Leu Gly Asn Ser Leu Ile Ile Leu Leu
 35 40 45

Thr Gln Val Ser Pro Ala Leu His Ser Pro Met Tyr Phe Phe Leu Arg
 50 55 60

Gln Leu Ser Val Val Glu Leu Phe Tyr Thr Thr Asp Ile Val Pro Arg
 65 70 75 80

Thr Leu Ala Asn Leu Gly Ser Pro His Pro Gln Ala Ile Ser Phe Gln
 85 90 95

Gly Cys Ala Ala Gln Met Tyr Val Phe Ile Val Leu Gly Ile Ser Glu
 100 105 110

Cys Cys Leu Leu Thr Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys
 115 120 125

Gln Pro Leu Arg Tyr Ser Thr Leu Leu Ser Pro Arg Ala Cys Leu Ala
 130 135 140

Met Val Gly Ser Ser Trp Leu Thr Gly Ile Ile Thr Ala Thr Thr His
 145 150 155 160

Ala Ser Leu Ile Phe Ser Leu Pro Phe Arg Ser His Pro Ile Ile Pro
 165 170 175

His Phe Leu Cys Asp Ile Leu Pro Val Leu Arg Leu Ala Ser Ala Gly
 180 185 190

Lys His Arg Ser Glu Ile Ser Val Met Thr Ala Thr Ile Val Phe Ile
 195 200 205

Met Ile Pro Phe Ser Leu Ile Val Thr Ser Tyr Ile Arg Ile Leu Gly
 210 215 220

Ala Ile Leu Ala Met Ala Ser Thr Gln Ser Arg Arg Lys Val Phe Ser
225 230 235 240

Thr Cys Ser Ser His Leu Leu Val Val Ser Leu Phe Phe Gly Thr Ala
245 250 255

Ser Ile Thr Tyr Ile Arg Pro Gln Ala Gly Ser Ser Val Thr Thr Asp
260 265 270

Arg Val Leu Ser Leu Phe Tyr Thr Val Ile Thr Pro Met Leu Asn Pro
275 280 285

Ile Ile Tyr Thr Leu Arg Asn Lys Asp Val Arg Arg Ala Leu Arg His
290 295 300

Leu Val Lys Arg Gln Arg Pro Ser Pro
305 310

<210> 369
<211> 1098
<212> DNA
<213> Homo Sapiens

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<222> (1)..(1095)
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<220>
<221> misc_feature
<222> (146)..(146)
<223> Any nucleotide

<400> 369
atg atg aca gtg att tta aaa act tta ttg gga cag ata cag ggc ctc 48
Met Met Thr Val Ile Leu Lys Thr Leu Leu Gly Gln Ile Gln Gly Leu
1 5 10 15

agt gga aac cca cac tct act acg tct aga atg tac ttt tta tgt ttc 96
Ser Gly Asn Pro His Ser Thr Thr Ser Arg Met Tyr Phe Leu Cys Phe
20 25 30

tgt act tct cta cta ggt ttt aag gta cac tgg gtc tcc aga ttg atc 144
Cys Thr Ser Leu Leu Gly Phe Lys Val His Trp Val Ser Arg Leu Ile
35 40 45

ang aaa ctt tac atg gca tct ccc aac aat gac tcc act gcc cca gtc 192
Xaa Lys Leu Tyr Met Ala Ser Pro Asn Asn Asp Ser Thr Ala Pro Val
50 55 60

tct gaa ttc ctc ctc atc tgc ttc ccc aac ttc cag agc tgg cag cac 240
Ser Glu Phe Leu Leu Ile Cys Phe Pro Asn Phe Gln Ser Trp Gln His

65	70	75	80	
tgg ttg tct ctg ccc ctc agc ctt ctc ttc ctc ctg gcc atg gga gct				288
Trp Leu Ser Leu Pro Leu Ser Leu Leu Phe Leu Leu Ala Met Gly Ala	85	90	95	
aac acc acc ctc ctg atc acc atc cag ctg gag gcc tct ctg cac cag				336
Asn Thr Thr Leu Leu Ile Thr Ile Gln Leu Glu Ala Ser Leu His Gln	100	105	110	
ccc ctg tac tac ctg ctc agc ctc ctc tcc ctg ctg gac atc gtg ctc				384
Pro Leu Tyr Tyr Leu Leu Ser Leu Leu Ser Leu Leu Asp Ile Val Leu	115	120	125	
tgc ctc acc gtc atc ccc aag gtc ctg gcc atc ttc tgg ttt gac ctc				432
Cys Leu Thr Val Ile Pro Lys Val Leu Ala Ile Phe Trp Phe Asp Leu	130	135	140	
agg tcg atc agc ttc cca gcc tgc ttc ctc cag atg ttc atc atg aac				480
Arg Ser Ile Ser Phe Pro Ala Cys Phe Leu Gln Met Phe Ile Met Asn	145	150	155	160
agt ttt ttg acc atg gag tcc tgc acg ttc atg gtc atg gcc tat gac				528
Ser Phe Leu Thr Met Glu Ser Cys Thr Phe Met Val Met Ala Tyr Asp	165	170	175	
cgt tat gtg gcc atc tgc cat cca ttg aga tac ccg tct atc atc act				576
Arg Tyr Val Ala Ile Cys His Pro Leu Arg Tyr Pro Ser Ile Ile Thr	180	185	190	
gac cag ttt gtg gct agg gcc gtg gtc ttt gtt ata gcc cgg aat gcc				624
Asp Gln Phe Val Ala Arg Ala Val Val Phe Val Ile Ala Arg Asn Ala	195	200	205	
ttt gtt tct ctt cct gtt ccc atg ctt tct gcc agg ctc aga tac tgt				672
Phe Val Ser Leu Pro Val Pro Met Leu Ser Ala Arg Leu Arg Tyr Cys	210	215	220	
gca gga aac ata atc aag aac tgc atc tgc agt aac ctg tct gtg tcc				720
Ala Gly Asn Ile Ile Lys Asn Cys Ile Cys Ser Asn Leu Ser Val Ser	225	230	235	240
aaa ctc tct tgt gat gac atc act ttc aat cag ctc tac cag ttt gtg				768
Lys Leu Ser Cys Asp Asp Ile Thr Phe Asn Gln Leu Tyr Gln Phe Val	245	250	255	
gca ggc tgg act ctg ttg ggc tct gat ctt atc ctt att gtt atc tcc				816
Ala Gly Trp Thr Leu Leu Gly Ser Asp Leu Ile Leu Ile Val Ile Ser	260	265	270	
tat tct ttt ata ttg aaa gtt gtg ctt agg atc aag gcc gag ggt gct				864
Tyr Ser Phe Ile Leu Lys Val Val Leu Arg Ile Lys Ala Glu Gly Ala	275	280	285	
gtg gcc aag gcc ttg agc acg tgt ggt tcc cac ttc atc ctc atc ctc				912
Val Ala Lys Ala Leu Ser Thr Cys Gly Ser His Phe Ile Leu Ile Leu	290	295	300	
ttc ttc agc aca gtc ctg ctg gtt ctg gtc atc act aac ctg gcc agg				960
Phe Phe Ser Thr Val Leu Leu Val Leu Val Ile Thr Asn Leu Ala Arg	305	310	315	320

aag aga att cct cca gat gtc ccc atc ctg ctc aac atc ctg cac cac 1008
 Lys Arg Ile Pro Pro Asp Val Pro Ile Leu Leu Asn Ile Leu His His
 325 330 335

ctc att ccc cca gct ctg aac ccc att gtt tat ggt gtg aga acc aag 1056
 Leu Ile Pro Pro Ala Leu Asn Pro Ile Val Tyr Gly Val Arg Thr Lys
 340 345 350

gag atc aag cag gga atc caa aac ctg ctg aag agg ttg taa 1098
 Glu Ile Lys Gln Gly Ile Gln Asn Leu Leu Lys Arg Leu
 355 360 365

<210> 370

<211> 365

<212> PRT

<213> Homo Sapiens

<220>

<221> misc_feature

<222> (49)..(49)

<223> The 'Xaa' at location 49 stands for Lys, Arg, Thr, or Met.

<220>

<221> misc_feature

<222> (146)..(146)

<223> Any nucleotide

<400> 370

Met Met Thr Val Ile Leu Lys Thr Leu Leu Gly Gln Ile Gln Gly Leu
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Ser Gly Asn Pro His Ser Thr Thr Ser Arg Met Tyr Phe Leu Cys Phe
 20 25 30

Cys Thr Ser Leu Leu Gly Phe Lys Val His Trp Val Ser Arg Leu Ile
 35 40 45

Xaa Lys Leu Tyr Met Ala Ser Pro Asn Asn Asp Ser Thr Ala Pro Val
 50 55 60

Ser Glu Phe Leu Leu Ile Cys Phe Pro Asn Phe Gln Ser Trp Gln His
 65 70 75 80

Trp Leu Ser Leu Pro Leu Ser Leu Leu Phe Leu Leu Ala Met Gly Ala
 85 90 95

Asn Thr Thr Leu Leu Ile Thr Ile Gln Leu Glu Ala Ser Leu His Gln
 100 105 110

Pro Leu Tyr Tyr Leu Leu Ser Leu Leu Ser Leu Leu Asp Ile Val Leu
 115 120 125

Cys Leu Thr Val Ile Pro Lys Val Leu Ala Ile Phe Trp Phe Asp Leu
 130 135 140

Arg Ser Ile Ser Phe Pro Ala Cys Phe Leu Gln Met Phe Ile Met Asn
 145 150 155 160

Ser Phe Leu Thr Met Glu Ser Cys Thr Phe Met Val Met Ala Tyr Asp
 165 170 175

Arg Tyr Val Ala Ile Cys His Pro Leu Arg Tyr Pro Ser Ile Ile Thr
 180 185 190

Asp Gln Phe Val Ala Arg Ala Val Val Phe Val Ile Ala Arg Asn Ala
 195 200 205

Phe Val Ser Leu Pro Val Pro Met Leu Ser Ala Arg Leu Arg Tyr Cys
 210 215 220

Ala Gly Asn Ile Ile Lys Asn Cys Ile Cys Ser Asn Leu Ser Val Ser
 225 230 235 240

Lys Leu Ser Cys Asp Asp Ile Thr Phe Asn Gln Leu Tyr Gln Phe Val
 245 250 255

Ala Gly Trp Thr Leu Leu Gly Ser Asp Leu Ile Leu Ile Val Ile Ser
 260 265 270

Tyr Ser Phe Ile Leu Lys Val Val Leu Arg Ile Lys Ala Glu Gly Ala
 275 280 285

Val Ala Lys Ala Leu Ser Thr Cys Gly Ser His Phe Ile Leu Ile Leu
 290 295 300

Phe Phe Ser Thr Val Leu Leu Val Leu Val Ile Thr Asn Leu Ala Arg
 305 310 315 320

Lys Arg Ile Pro Pro Asp Val Pro Ile Leu Leu Asn Ile Leu His His
 325 330 335

Leu Ile Pro Pro Ala Leu Asn Pro Ile Val Tyr Gly Val Arg Thr Lys
 340 345 350

Glu Ile Lys Gln Gly Ile Gln Asn Leu Leu Lys Arg Leu
 355 360 365

<210> 371
 <211> 957
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1)..(954)
 <223>

<400> 371
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 Met Ile Gln Pro Met Ala Ser Pro Ser Asn Ser Ser Thr Val Pro Val
 1 5 10 15
 tct gaa ttc ctc ctc acc tgc ttc ccc aac ttc cag agt tgg cag cac 96
 Ser Glu Phe Leu Leu Thr Cys Phe Pro Asn Phe Gln Ser Trp Gln His
 20 25 30
 tgg ctc tcc ctg ccc ctc agc ctt ctc ttc ctc ctg gcc atg gga gct 144
 Trp Leu Ser Leu Pro Leu Ser Leu Leu Phe Leu Leu Ala Met Gly Ala
 35 40 45
 aac acc acc ctc ctg atc acc atc cag ctg gag gcc tct ctg cac cag 192
 Asn Thr Thr Leu Leu Ile Thr Ile Gln Leu Glu Ala Ser Leu His Gln
 50 55 60
 ccc ctg tac tac ctg ctc agc ctc ctc tcc ctg ctg gac atc gtg ctc 240
 Pro Leu Tyr Tyr Leu Ser Leu Leu Ser Leu Leu Asp Ile Val Leu
 65 70 75 80
 tgc ctc acc gtc atc ccc aag gtc ctg gcc atc ttc tgg tat gat ctt 288
 Cys Leu Thr Val Ile Pro Lys Val Leu Ala Ile Phe Trp Tyr Asp Leu
 85 90 95
 agg tcg atc agc ttc cct gcc tgc ttc ctc cag atg ttc atc atg aac 336
 Arg Ser Ile Ser Phe Pro Ala Cys Phe Leu Gln Met Phe Ile Met Asn
 100 105 110
 agt ttc ctc ccc atg gag tcc tgc acg ttt atg gtc atg gcc tat gac 384
 Ser Phe Leu Pro Met Glu Ser Cys Thr Phe Met Val Met Ala Tyr Asp
 115 120 125
 cgt tat gtg gcc atc tgc cac cca ctg cgg tac cca tcc atc atc act 432
 Arg Tyr Val Ala Ile Cys His Pro Leu Arg Tyr Pro Ser Ile Ile Thr
 130 135 140
 aat caa ttt gtg gcc aaa gct agt gtc ttc att gtg gtg cgg aat gcg 480
 Asn Gln Phe Val Ala Lys Ala Ser Val Phe Ile Val Val Arg Asn Ala
 145 150 155 160
 ctt ctt act gca ccc att cct atc ctc act tcc ctg ctc cat tac tgt 528
 Leu Leu Thr Ala Pro Ile Pro Ile Leu Thr Ser Leu Leu His Tyr Cys
 165 170 175
 ggg gaa aat gtc att gag aac tgc atc tgt gcc aac ttg tct gtg tcc 576
 Gly Glu Asn Val Ile Glu Asn Cys Ile Cys Ala Asn Leu Ser Val Ser
 180 185 190

agg ctc tcc tgt gat aat ttc acc ctt aac aga atc tac caa ttt gtg 624
 Arg Leu Ser Cys Asp Asn Phe Thr Leu Asn Arg Ile Tyr Gln Phe Val
 195 200 205

gct ggt tgg acc ttg ctg ggc tca gat tta ttc ctc atc ttc ctc tct 672
 Ala Gly Trp Thr Leu Leu Gly Ser Asp Leu Phe Leu Ile Phe Leu Ser
 210 215 220

tac acc ttc att cta aga gct gtg ctt aga ttc aaa gca gag ggg gcg 720
 Tyr Thr Phe Ile Leu Arg Ala Val Leu Arg Phe Lys Ala Glu Gly Ala
 225 230 235 240

gca gtg aag gcc ctg agc aca tgt ggc tcc cac ttc atc ctc att ctt 768
 Ala Val Lys Ala Leu Ser Thr Cys Gly Ser His Phe Ile Leu Ile Leu
 245 250 255

ttc ttc agc acc ata ctg ctg gtt gtg gtg ttg aca aac gtg gcc aga 816
 Phe Phe Ser Thr Ile Leu Leu Val Val Val Leu Thr Asn Val Ala Arg
 260 265 270

aag aag gtc ccc atg gac atc ctg atc ctg ctg aac gtc ctt cat cac 864
 Lys Lys Val Pro Met Asp Ile Leu Ile Leu Leu Asn Val Leu His His
 275 280 285

ctt att cct cct gcg ttg aac cct att gtg tat ggg gtt cgg acc aaa 912
 Leu Ile Pro Pro Ala Leu Asn Pro Ile Val Tyr Gly Val Arg Thr Lys
 290 295 300

gag ata aaa cag gga att cag aag tta ctg cag aga ggg agg tga 957
 Glu Ile Lys Gln Gly Ile Gln Lys Leu Leu Gln Arg Gly Arg
 305 310 315

<210> 372
 <211> 318
 <212> PRT
 <213> Homo Sapiens

<400> 372

Met Ile Gln Pro Met Ala Ser Pro Ser Asn Ser Ser Thr Val Pro Val
 1 5 10 15

Ser Glu Phe Leu Leu Thr Cys Phe Pro Asn Phe Gln Ser Trp Gln His
 20 25 30

Trp Leu Ser Leu Pro Leu Ser Leu Leu Phe Leu Leu Ala Met Gly Ala
 35 40 45

Asn Thr Thr Leu Leu Ile Thr Ile Gln Leu Glu Ala Ser Leu His Gln
 50 55 60

Pro Leu Tyr Tyr Leu Leu Ser Leu Leu Ser Leu Leu Asp Ile Val Leu
 65 70 75 80

Cys Leu Thr Val Ile Pro Lys Val Leu Ala Ile Phe Trp Tyr Asp Leu

85	90	95
Arg Ser Ile Ser Phe Pro Ala Cys Phe Leu Gln Met Phe Ile Met Asn 100 105 110		
Ser Phe Leu Pro Met Glu Ser Cys Thr Phe Met Val Met Ala Tyr Asp 115 120 125		
Arg Tyr Val Ala Ile Cys His Pro Leu Arg Tyr Pro Ser Ile Ile Thr 130 135 140		
Asn Gln Phe Val Ala Lys Ala Ser Val Phe Ile Val Val Arg Asn Ala 145 150 155 160		
Leu Leu Thr Ala Pro Ile Pro Ile Leu Thr Ser Leu Leu His Tyr Cys 165 170 175		
Gly Glu Asn Val Ile Glu Asn Cys Ile Cys Ala Asn Leu Ser Val Ser 180 185 190		
Arg Leu Ser Cys Asp Asn Phe Thr Leu Asn Arg Ile Tyr Gln Phe Val 195 200 205		
Ala Gly Trp Thr Leu Leu Gly Ser Asp Leu Phe Leu Ile Phe Leu Ser 210 215 220		
Tyr Thr Phe Ile Leu Arg Ala Val Leu Arg Phe Lys Ala Glu Gly Ala 225 230 235 240		
Ala Val Lys Ala Leu Ser Thr Cys Gly Ser His Phe Ile Leu Ile Leu 245 250 255		
Phe Phe Ser Thr Ile Leu Leu Val Val Val Leu Thr Asn Val Ala Arg 260 265 270		
Lys Lys Val Pro Met Asp Ile Leu Ile Leu Leu Asn Val Leu His His 275 280 285		
Leu Ile Pro Pro Ala Leu Asn Pro Ile Val Tyr Gly Val Arg Thr Lys 290 295 300		
Glu Ile Lys Gln Gly Ile Gln Lys Leu Leu Gln Arg Gly Arg 305 310 315		
<210> 373		
<211> 990		

<212> DNA
<213> Homo Sapiens

<220>
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<222> (1)..(987)
<223>

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atg act ttg gtt tct ttt ttc tct ttc ctc tcc aag cca ttg ata atg      48
Met Thr Leu Val Ser Phe Phe Ser Phe Leu Ser Lys Pro Leu Ile Met
1          5          10          15

ctc ctt agc aat tca agc tgg agg cta tcc cag cct tct ttt ctc ctg      96
Leu Leu Ser Asn Ser Ser Trp Arg Leu Ser Gln Pro Ser Phe Leu Leu
20          25          30

gta ggg att cca ggt tta gag gaa agc cag cac tgg att gca ctg ccc      144
Val Gly Ile Pro Gly Leu Glu Glu Ser Gln His Trp Ile Ala Leu Pro
35          40          45

ctg ggc atc ctt tac ctc ctt gct tta gtg ggc aat gtt acc att ctc      192
Leu Gly Ile Leu Tyr Leu Leu Ala Leu Val Gly Asn Val Thr Ile Leu
50          55          60

ttc atc atc tgg atg gac cca tcc ttg cac caa tct atg tac ctc ttc      240
Phe Ile Ile Trp Met Asp Pro Ser Leu His Gln Ser Met Tyr Leu Phe
65          70          75          80

ctg tcc atg cta gct gcc atc gac ctg gtt ctg gcc tcc tcc act gca      288
Leu Ser Met Leu Ala Ala Ile Asp Leu Val Leu Ala Ser Ser Thr Ala
85          90          95

ccc aaa gcc ctt gca gtg ctc ctg gtt cat gcc cac gag att ggg tac      336
Pro Lys Ala Leu Ala Val Leu Leu Val His Ala His Glu Ile Gly Tyr
100         105         110

atc gtc tgc ctg atc cag atg ttc ttc atc cat gca ttc tcc tcc atg      384
Ile Val Cys Leu Ile Gln Met Phe Phe Ile His Ala Phe Ser Ser Met
115         120         125

gag tca ggg gta ctt gtg gcc atg gct ctg gat cgc tat gta gcc att      432
Glu Ser Gly Val Leu Val Ala Met Ala Leu Asp Arg Tyr Val Ala Ile
130         135         140

tgt cac ccc ttg cac cat tcc aca atc ctg cat cca ggg gtc ata ggg      480
Cys His Pro Leu His His Ser Thr Ile Leu His Pro Gly Val Ile Gly
145         150         155         160

cgc atc gga atg gtg gtg ctg gtg agg gga tta cta ctc ctt atc ccc      528
Arg Ile Gly Met Val Val Leu Val Arg Gly Leu Leu Leu Leu Ile Pro
165         170         175

ttc ccc att ttg ttg gga aca ctt atc ttc tgc caa gcc acc atc ata      576
Phe Pro Ile Leu Leu Gly Thr Leu Ile Phe Cys Gln Ala Thr Ile Ile
180         185         190

ggc cat gcc tat tgt gaa cat atg gct gtt gtg aaa ctt gcc tgc tca      624
Gly His Ala Tyr Cys Glu His Met Ala Val Val Lys Leu Ala Cys Ser
195         200         205

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gaa acc aca gtc aat cga gct tat ggg ctg act atg gcc ttg ctt gtg 672
 Glu Thr Thr Val Asn Arg Ala Tyr Gly Leu Thr Met Ala Leu Leu Val
 210 215 220
 att ggg ctg gat gtt ctg gcc att ggt gtt tcc tat gcc cac atc ctc 720
 Ile Gly Leu Asp Val Leu Ala Ile Gly Val Ser Tyr Ala His Ile Leu
 225 230 235 240
 cag gca gtg ctg aag gta cca ggg agt gag gcc cga ctt aag gcg ttt 768
 Gln Ala Val Leu Lys Val Pro Gly Ser Glu Ala Arg Leu Lys Ala Phe
 245 250 255
 agc aca tgt ggc tct cat att tgt gtc atc ctg gtc ttc tat gtc cct 816
 Ser Thr Cys Gly Ser His Ile Cys Val Ile Leu Val Phe Tyr Val Pro
 260 265 270
 gga att ttc tcc ttc ctc act cac cgc ttt ggt cat cat gta ccc cat 864
 Gly Ile Phe Ser Phe Leu Thr His Arg Phe Gly His His Val Pro His
 275 280 285
 cat gtc cat gtt ctt ctg gcc aca cgg tat ctc ctc atg cca cct gcg 912
 His Val His Val Leu Leu Ala Thr Arg Tyr Leu Leu Met Pro Pro Ala
 290 295 300
 ctc aat cct ctt gtc tat gga gtg aag act cag cag atc cgc cag cga 960
 Leu Asn Pro Leu Val Tyr Gly Val Lys Thr Gln Gln Ile Arg Gln Arg
 305 310 315 320
 gtg ctc aga gtg ttt aca caa aag gat tga 990
 Val Leu Arg Val Phe Thr Gln Lys Asp
 325

<210> 374
 <211> 329
 <212> PRT
 <213> Homo Sapiens

<400> 374

Met Thr Leu Val Ser Phe Phe Ser Phe Leu Ser Lys Pro Leu Ile Met
1 5 10 15

Leu Leu Ser Asn Ser Ser Trp Arg Leu Ser Gln Pro Ser Phe Leu Leu
20 25 30

Val Gly Ile Pro Gly Leu Glu Glu Ser Gln His Trp Ile Ala Leu Pro
35 40 45

Leu Gly Ile Leu Tyr Leu Leu Ala Leu Val Gly Asn Val Thr Ile Leu
50 55 60

Phe Ile Ile Trp Met Asp Pro Ser Leu His Gln Ser Met Tyr Leu Phe
65 70 75 80

Leu Ser Met Leu Ala Ala Ile Asp Leu Val Leu Ala Ser Ser Thr Ala
 85 90 95

Pro Lys Ala Leu Ala Val Leu Leu Val His Ala His Glu Ile Gly Tyr
 100 105 110

Ile Val Cys Leu Ile Gln Met Phe Phe Ile His Ala Phe Ser Ser Met
 115 120 125

Glu Ser Gly Val Leu Val Ala Met Ala Leu Asp Arg Tyr Val Ala Ile
 130 135 140

Cys His Pro Leu His His Ser Thr Ile Leu His Pro Gly Val Ile Gly
 145 150 155 160

Arg Ile Gly Met Val Val Leu Val Arg Gly Leu Leu Leu Leu Ile Pro
 165 170 175

Phe Pro Ile Leu Leu Gly Thr Leu Ile Phe Cys Gln Ala Thr Ile Ile
 180 185 190

Gly His Ala Tyr Cys Glu His Met Ala Val Val Lys Leu Ala Cys Ser
 195 200 205

Glu Thr Thr Val Asn Arg Ala Tyr Gly Leu Thr Met Ala Leu Leu Val
 210 215 220

Ile Gly Leu Asp Val Leu Ala Ile Gly Val Ser Tyr Ala His Ile Leu
 225 230 235 240

Gln Ala Val Leu Lys Val Pro Gly Ser Glu Ala Arg Leu Lys Ala Phe
 245 250 255

Ser Thr Cys Gly Ser His Ile Cys Val Ile Leu Val Phe Tyr Val Pro
 260 265 270

Gly Ile Phe Ser Phe Leu Thr His Arg Phe Gly His His Val Pro His
 275 280 285

His Val His Val Leu Leu Ala Thr Arg Tyr Leu Leu Met Pro Pro Ala
 290 295 300

Leu Asn Pro Leu Val Tyr Gly Val Lys Thr Gln Gln Ile Arg Gln Arg
 305 310 315 320

Val Leu Arg Val Phe Thr Gln Lys Asp

325

<210> 375
 <211> 960
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<220>
 <221> CDS
 <222> (1)..(957)
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<400> 375
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 Met Asn Leu Asp Ser Phe Phe Ser Phe Leu Leu Lys Ser Leu Ile Met
 1 5 10 15
 gca ctt agc aat tcc agc tgg agg cta ccc cag cct tct ttt ttc ctg 96
 Ala Leu Ser Asn Ser Ser Trp Arg Leu Pro Gln Pro Ser Phe Phe Leu
 20 25 30
 gta gga att ccg ggt tta gag gaa agc cag cac tgg atc gca ctg ccc 144
 Val Gly Ile Pro Gly Leu Glu Glu Ser Gln His Trp Ile Ala Leu Pro
 35 40 45
 ctg ggc atc ctt tac ctc ctt gct cta gtg ggc aat gtt acc att ctc 192
 Leu Gly Ile Leu Tyr Leu Leu Ala Leu Val Gly Asn Val Thr Ile Leu
 50 55 60
 ttc atc atc tgg atg gac cca tcc ttg cac caa tct atg tac ctc ttc 240
 Phe Ile Ile Trp Met Asp Pro Ser Leu His Gln Ser Met Tyr Leu Phe
 65 70 75 80
 ctg tcc atg cta gct gcc atc gac ctg gtt gtg gcc tcc tcc act gca 288
 Leu Ser Met Leu Ala Ala Ile Asp Leu Val Val Ala Ser Ser Thr Ala
 85 90 95
 ccc aaa gcc ctt gca gtg ctc ctg gtt cgt gcc caa gag att ggt tac 336
 Pro Lys Ala Leu Ala Val Leu Leu Val Arg Ala Gln Glu Ile Gly Tyr
 100 105 110
 act gtc tgc ctg atc cag atg ttc ttc acc cat gca ttc tcc tcc atg 384
 Thr Val Cys Leu Ile Gln Met Phe Phe Thr His Ala Phe Ser Ser Met
 115 120 125
 gag tca ggg gta ctt gtg gcc atg gct ctg gat cgc tat gta gcc att 432
 Glu Ser Gly Val Leu Val Ala Met Ala Leu Asp Arg Tyr Val Ala Ile
 130 135 140
 tgt cac ccc ttg cac cat tcc aca atc ctg cat cca ggg gtc ata ggg 480
 Cys His Pro Leu His His Ser Thr Ile Leu His Pro Gly Val Ile Gly
 145 150 155 160
 cac atc gga atg gtg gtg ctg gtg cgg gga tta cta ctc ctc atc ccc 528
 His Ile Gly Met Val Val Leu Val Arg Gly Leu Leu Leu Leu Ile Pro
 165 170 175
 ttc ctc att ctg ttg cga aaa ctt atc ttc tgc caa gcc acc atc ata 576
 Phe Leu Ile Leu Leu Arg Lys Leu Ile Phe Cys Gln Ala Thr Ile Ile

180	185	190	
ggc cat gcc tat tgt gaa cat atg gct gtt gtg aaa ctt gcc tgc tca Gly His Ala Tyr Cys Glu His Met Ala Val Val Lys Leu Ala Cys Ser			624
195	200	205	
gaa acc aca gtc aat cga gct tat ggg ctg act gtg gcc ttg ctt gtg Glu Thr Thr Val Asn Arg Ala Tyr Gly Leu Thr Val Ala Leu Leu Val			672
210	215	220	
gtt ggg ctg gat gtc ctg gcc att ggt gtt tcc tat gcc cac att ctc Val Gly Leu Asp Val Leu Ala Ile Gly Val Ser Tyr Ala His Ile Leu			720
225	230	235	240
cag gca gtg ctg aag gta cca gga aat gag gcc cga ctt aag gcc ttt Gln Ala Val Leu Lys Val Pro Gly Asn Glu Ala Arg Leu Lys Ala Phe			768
245	250	255	
agc aca tgt ggc tct cat gtt tgt gtc atc ctg gtc ttc tat atc ccg Ser Thr Cys Gly Ser His Val Cys Val Ile Leu Val Phe Tyr Ile Pro			816
260	265	270	
gga atg ttc tcc ttc ctc act cac cgc ttt ggt cat cat gta ccc cat Gly Met Phe Ser Phe Leu Thr His Arg Phe Gly His His Val Pro His			864
275	280	285	
cac gtc cat gtt ctt ctg gcc ata ctg tat cgc ctt gtg cca cct gca His Val His Val Leu Leu Ala Ile Leu Tyr Arg Leu Val Pro Pro Ala			912
290	295	300	
ctc aat cct ctt gtc tat agg gtg aag acc cag aag atc cac cag tga Leu Asn Pro Leu Val Tyr Arg Val Lys Thr Gln Lys Ile His Gln			960
305	310	315	
<210> 376			
<211> 319			
<212> PRT			
<213> Homo Sapiens			
<400> 376			
Met Asn Leu Asp Ser Phe Phe Ser Phe Leu Leu Lys Ser Leu Ile Met			
1	5	10	15
Ala Leu Ser Asn Ser Ser Trp Arg Leu Pro Gln Pro Ser Phe Phe Leu			
20	25	30	
Val Gly Ile Pro Gly Leu Glu Glu Ser Gln His Trp Ile Ala Leu Pro			
35	40	45	
Leu Gly Ile Leu Tyr Leu Leu Ala Leu Val Gly Asn Val Thr Ile Leu			
50	55	60	
Phe Ile Ile Trp Met Asp Pro Ser Leu His Gln Ser Met Tyr Leu Phe			
65	70	75	80

Leu Ser Met Leu Ala Ala Ile Asp Leu Val Val Ala Ser Ser Thr Ala
85 90 95

Pro Lys Ala Leu Ala Val Leu Leu Val Arg Ala Gln Glu Ile Gly Tyr
100 105 110

Thr Val Cys Leu Ile Gln Met Phe Phe Thr His Ala Phe Ser Ser Met
115 120 125

Glu Ser Gly Val Leu Val Ala Met Ala Leu Asp Arg Tyr Val Ala Ile
130 135 140

Cys His Pro Leu His His Ser Thr Ile Leu His Pro Gly Val Ile Gly
145 150 155 160

His Ile Gly Met Val Val Leu Val Arg Gly Leu Leu Leu Leu Ile Pro
165 170 175

Phe Leu Ile Leu Leu Arg Lys Leu Ile Phe Cys Gln Ala Thr Ile Ile
180 185 190

Gly His Ala Tyr Cys Glu His Met Ala Val Val Lys Leu Ala Cys Ser
195 200 205

Glu Thr Thr Val Asn Arg Ala Tyr Gly Leu Thr Val Ala Leu Leu Val
210 215 220

Val Gly Leu Asp Val Leu Ala Ile Gly Val Ser Tyr Ala His Ile Leu
225 230 235 240

Gln Ala Val Leu Lys Val Pro Gly Asn Glu Ala Arg Leu Lys Ala Phe
245 250 255

Ser Thr Cys Gly Ser His Val Cys Val Ile Leu Val Phe Tyr Ile Pro
260 265 270

Gly Met Phe Ser Phe Leu Thr His Arg Phe Gly His His Val Pro His
275 280 285

His Val His Val Leu Leu Ala Ile Leu Tyr Arg Leu Val Pro Pro Ala
290 295 300

Leu Asn Pro Leu Val Tyr Arg Val Lys Thr Gln Lys Ile His Gln
305 310 315

<210> 377
 <211> 945
 <212> DNA
 <213> Homo Sapiens

<220>
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 <222> (1) .. (942)
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<400> 377
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 Met Ser Ala Ser Asn Ile Thr Leu Thr His Pro Thr Ala Phe Leu Leu
 1 5 10 15
 gtg ggg att cca ggc ctg gaa cac ctg cac atc tgg atc tcc atc cct 96
 Val Gly Ile Pro Gly Leu Glu His Leu His Ile Trp Ile Ser Ile Pro
 20 25 30
 ttc tgc tta gca tat aca ctg gcc ctg ctt gga aac tgc act ctc ctt 144
 Phe Cys Leu Ala Tyr Thr Leu Ala Leu Leu Gly Asn Cys Thr Leu Leu
 35 40 45
 ctc atc atc cag gct gat gca gcc ctc cat gaa ccc atg tac ctc ttt 192
 Leu Ile Ile Gln Ala Asp Ala Ala Leu His Glu Pro Met Tyr Leu Phe
 50 55 60
 ctg gcc atg ttg gca gcc atc gac ctg gtc ctt tcc tcc tca gca ctg 240
 Leu Ala Met Leu Ala Ala Ile Asp Leu Val Leu Ser Ser Ser Ala Leu
 65 70 75 80
 ccc aaa atg ctt gcc ata ttc tgg ttc agg gat cgg gag ata aac ttc 288
 Pro Lys Met Leu Ala Ile Phe Trp Phe Arg Asp Arg Glu Ile Asn Phe
 85 90 95
 ttt gcc tgt ctg gcc cag atg ttc ttc ctt cac tcc ttc tcc atc atg 336
 Phe Ala Cys Leu Ala Gln Met Phe Phe Leu His Ser Phe Ser Ile Met
 100 105 110
 gag tca gca gtg ctg ctg gcc atg gcc ttt gac cgc tat gtg gct atc 384
 Glu Ser Ala Val Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile
 115 120 125
 tgc aag cca ctg cac tac acc aag gtc ctg act ggg tcc ctc atc acc 432
 Cys Lys Pro Leu His Tyr Thr Lys Val Leu Thr Gly Ser Leu Ile Thr
 130 135 140
 aag att ggc atg gct gct gtg gcc cgg gct gtg aca cta atg act cca 480
 Lys Ile Gly Met Ala Ala Val Ala Arg Ala Val Thr Leu Met Thr Pro
 145 150 155 160
 ctc ccc ttc ctg ctg aga tgt ttc cac tac tgc cga ggc cca gtg atc 528
 Leu Pro Phe Leu Leu Arg Cys Phe His Tyr Cys Arg Gly Pro Val Ile
 165 170 175
 gct cac tgc tac tgt gaa cac atg gct gtg gtg agg ctg gcg tgt ggg 576
 Ala His Cys Tyr Cys Glu His Met Ala Val Val Arg Leu Ala Cys Gly
 180 185 190
 gac act agc ttc aac aat atc tat ggc atc gct gtg gcc atg ttt att 624

Asp Thr Ser Phe Asn Asn Ile Tyr Gly Ile Ala Val Ala Met Phe Ile
 195 200 205
 gtg gtg ttg gac ctg ctc ctt gtt atc ctg tct tat atc ttt att ctt 672
 Val Val Leu Asp Leu Leu Leu Val Ile Leu Ser Tyr Ile Phe Ile Leu
 210 215 220
 cag gca gtt cta ctg ctt gcc tct cag gag gcc cac tac aag gca ttt 720
 Gln Ala Val Leu Leu Leu Ala Ser Gln Glu Ala His Tyr Lys Ala Phe
 225 230 235 240
 ggg aca tgt gtc tct cat ata ggt gcc atc tta gcc ttc tac aca act 768
 Gly Thr Cys Val Ser His Ile Gly Ala Ile Leu Ala Phe Tyr Thr Thr
 245 250 255
 gtg gtc atc tct tca gtc atg cac cgt gta gcc cgc cat gct gcc cct 816
 Val Val Ile Ser Ser Val Met His Arg Val Ala Arg His Ala Ala Pro
 260 265 270
 cat gtc cac atc ctc ctt gcc aat ttc tat ctg ctc ttc cca ccc atg 864
 His Val His Ile Leu Leu Ala Asn Phe Tyr Leu Phe Pro Pro Met
 275 280 285
 gtc aat ccc ata atc tat ggt gtc aag acc aag caa atc cgt gag agc 912
 Val Asn Pro Ile Ile Tyr Gly Val Lys Thr Lys Gln Ile Arg Glu Ser
 290 295 300
 atc ttg gga gta ttc cca aga aag gat atg tag 945
 Ile Leu Gly Val Phe Pro Arg Lys Asp Met
 305 310

<210> 378
 <211> 314
 <212> PRT
 <213> Homo Sapiens

<400> 378

Met Ser Ala Ser Asn Ile Thr Leu Thr His Pro Thr Ala Phe Leu Leu
 1 5 10 15

Val Gly Ile Pro Gly Leu Glu His Leu His Ile Trp Ile Ser Ile Pro
 20 25 30

Phe Cys Leu Ala Tyr Thr Leu Ala Leu Leu Gly Asn Cys Thr Leu Leu
 35 40 45

Leu Ile Ile Gln Ala Asp Ala Ala Leu His Glu Pro Met Tyr Leu Phe
 50 55 60

Leu Ala Met Leu Ala Ala Ile Asp Leu Val Leu Ser Ser Ser Ala Leu
 65 70 75 80

Pro Lys Met Leu Ala Ile Phe Trp Phe Arg Asp Arg Glu Ile Asn Phe
 85 90 95

Phe Ala Cys Leu Ala Gln Met Phe Phe Leu His Ser Phe Ser Ile Met
 100 105 110

Glu Ser Ala Val Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile
 115 120 125

Cys Lys Pro Leu His Tyr Thr Lys Val Leu Thr Gly Ser Leu Ile Thr
 130 135 140

Lys Ile Gly Met Ala Ala Val Ala Arg Ala Val Thr Leu Met Thr Pro
 145 150 155 160

Leu Pro Phe Leu Leu Arg Cys Phe His Tyr Cys Arg Gly Pro Val Ile
 165 170 175

Ala His Cys Tyr Cys Glu His Met Ala Val Val Arg Leu Ala Cys Gly
 180 185 190

Asp Thr Ser Phe Asn Asn Ile Tyr Gly Ile Ala Val Ala Met Phe Ile
 195 200 205

Val Val Leu Asp Leu Leu Leu Val Ile Leu Ser Tyr Ile Phe Ile Leu
 210 215 220

Gln Ala Val Leu Leu Leu Ala Ser Gln Glu Ala His Tyr Lys Ala Phe
 225 230 235 240

Gly Thr Cys Val Ser His Ile Gly Ala Ile Leu Ala Phe Tyr Thr Thr
 245 250 255

Val Val Ile Ser Ser Val Met His Arg Val Ala Arg His Ala Ala Pro
 260 265 270

His Val His Ile Leu Leu Ala Asn Phe Tyr Leu Leu Phe Pro Pro Met
 275 280 285

Val Asn Pro Ile Ile Tyr Gly Val Lys Thr Lys Gln Ile Arg Glu Ser
 290 295 300

Ile Leu Gly Val Phe Pro Arg Lys Asp Met
 305 310

<210> 379

<211> 945

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1) .. (942)

<223>

<400> 379

atg	ctt	ccc	tct	aat	atc	acc	tca	aca	cat	cca	gct	gtc	ttt	ttg	ttg	48
Met	Leu	Pro	Ser	Asn	Ile	Thr	Ser	Thr	His	Pro	Ala	Val	Phe	Leu	Leu	
1				5					10					15		

gta	gga	att	cct	ggt	ttg	gaa	cac	ctg	cat	gcc	tgg	atc	tcc	atc	ccc	96
Val	Gly	Ile	Pro	Gly	Leu	Glu	His	Leu	His	Ala	Trp	Ile	Ser	Ile	Pro	
			20					25					30			

ttc	tgc	ttt	gct	tat	act	ctg	gcc	ctg	cta	ggc	aac	tgt	acc	ctt	ctc	144
Phe	Cys	Phe	Ala	Tyr	Thr	Leu	Ala	Leu	Leu	Gly	Asn	Cys	Thr	Leu	Leu	
		35					40					45				

ttc	att	atc	cgg	gct	gat	gca	gcc	ctc	cat	gaa	ccc	atg	tac	ctc	ttt	192
Phe	Ile	Ile	Arg	Ala	Asp	Ala	Ala	Leu	His	Glu	Pro	Met	Tyr	Leu	Phe	
	50					55					60					

ctg	gcc	atg	ttg	gca	acc	att	gac	ttg	gtt	ctt	tct	tct	aca	acg	ctg	240
Leu	Ala	Met	Leu	Ala	Thr	Ile	Asp	Leu	Val	Leu	Ser	Ser	Thr	Thr	Leu	
65					70					75					80	

ccc	aaa	atg	ctt	gcc	ata	ttc	tgg	ttc	agg	gat	cag	gag	atc	aac	ttc	288
Pro	Lys	Met	Leu	Ala	Ile	Phe	Trp	Phe	Arg	Asp	Gln	Glu	Ile	Asn	Phe	
			85					90						95		

ttt	gcc	tgt	ctg	gtc	cag	atg	ttc	ttc	ctt	cac	tcc	ttc	tcc	atc	atg	336
Phe	Ala	Cys	Leu	Val	Gln	Met	Phe	Phe	Leu	His	Ser	Phe	Ser	Ile	Met	
			100					105					110			

gag	tca	gca	gtg	ctg	ctg	gcc	atg	gcc	ttt	gac	cgc	tat	gtg	gcc	atc	384
Glu	Ser	Ala	Val	Leu	Leu	Ala	Met	Ala	Phe	Asp	Arg	Tyr	Val	Ala	Ile	
		115					120					125				

tgc	aag	cca	ttg	cac	tac	acg	acg	gtc	ctg	act	ggg	tcc	ctc	atc	acc	432
Cys	Lys	Pro	Leu	His	Tyr	Thr	Thr	Val	Leu	Thr	Gly	Ser	Leu	Ile	Thr	
	130					135					140					

aag	att	ggc	atg	gct	gct	gtg	gcc	tgg	gct	gtg	aca	cta	atg	act	cca	480
Lys	Ile	Gly	Met	Ala	Ala	Val	Ala	Trp	Ala	Val	Thr	Leu	Met	Thr	Pro	
145					150					155					160	

ctc	ccc	ttc	ctg	ctc	aga	cgc	ttc	cac	tac	tgc	cga	ggc	cca	gtg	att	528
Leu	Pro	Phe	Leu	Leu	Arg	Arg	Phe	His	Tyr	Cys	Arg	Gly	Pro	Val	Ile	
				165					170					175		

gcc	cat	tgc	tac	tgt	gaa	cac	atg	gct	gtg	gta	agg	ctg	gcg	tgt	ggg	576
Ala	His	Cys	Tyr	Cys	Glu	His	Met	Ala	Val	Val	Arg	Leu	Ala	Cys	Gly	
			180					185					190			

gac	act	agc	ttc	aac	aat	atc	tat	ggc	att	gct	gtg	gcc	atg	ttt	att	624
Asp	Thr	Ser	Phe	Asn	Asn	Ile	Tyr	Gly	Ile	Ala	Val	Ala	Met	Phe	Ile	
			195				200					205				

gtg gtg ttg gac ctg ctc ttt gtt atc ctg tct tat gtc ttc atc ctt 672
Val Val Leu Asp Leu Leu Phe Val Ile Leu Ser Tyr Val Phe Ile Leu
210 215 220

cag gca gtt ctc cag ctt gcc tct cag gag gcc cgc tac aag gca ttt 720
Gln Ala Val Leu Gln Leu Ala Ser Gln Glu Ala Arg Tyr Lys Ala Phe
225 230 235 240

ggg aca tgt gtg tct cac ata ggt gcc atc ctg tcc acc tac act cca 768
Gly Thr Cys Val Ser His Ile Gly Ala Ile Leu Ser Thr Tyr Thr Pro
245 250 255

gta gtc atc tct tca gtc atg cac cgt gta gcc cgc cat gct gcc cct 816
Val Val Ile Ser Ser Val Met His Arg Val Ala Arg His Ala Ala Pro
260 265 270

cgt gtc cac ata ctc ctt gct att ttc tat ctc ctt ttc cca ccc atg 864
Arg Val His Ile Leu Leu Ala Ile Phe Tyr Leu Leu Phe Pro Pro Met
275 280 285

gtc aat cct atc ata tat gga gtc aag acc aag cag att cgt gag tat 912
Val Asn Pro Ile Ile Tyr Gly Val Lys Thr Lys Gln Ile Arg Glu Tyr
290 295 300

gtg ctc agt cta ttc cag aga aag aac atg tag 945
Val Leu Ser Leu Phe Gln Arg Lys Asn Met
305 310

<210> 380
<211> 314
<212> PRT
<213> Homo Sapiens

<400> 380

Met Leu Pro Ser Asn Ile Thr Ser Thr His Pro Ala Val Phe Leu Leu
1 5 10 15

Val Gly Ile Pro Gly Leu Glu His Leu His Ala Trp Ile Ser Ile Pro
20 25 30

Phe Cys Phe Ala Tyr Thr Leu Ala Leu Leu Gly Asn Cys Thr Leu Leu
35 40 45

Phe Ile Ile Arg Ala Asp Ala Ala Leu His Glu Pro Met Tyr Leu Phe
50 55 60

Leu Ala Met Leu Ala Thr Ile Asp Leu Val Leu Ser Ser Thr Thr Leu
65 70 75 80

Pro Lys Met Leu Ala Ile Phe Trp Phe Arg Asp Gln Glu Ile Asn Phe
85 90 95

Phe Ala Cys Leu Val Gln Met Phe Phe Leu His Ser Phe Ser Ile Met

100	105	110
Glu Ser Ala Val Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile 115 120 125		
Cys Lys Pro Leu His Tyr Thr Thr Val Leu Thr Gly Ser Leu Ile Thr 130 135 140		
Lys Ile Gly Met Ala Ala Val Ala Trp Ala Val Thr Leu Met Thr Pro 145 150 155 160		
Leu Pro Phe Leu Leu Arg Arg Phe His Tyr Cys Arg Gly Pro Val Ile 165 170 175		
Ala His Cys Tyr Cys Glu His Met Ala Val Val Arg Leu Ala Cys Gly 180 185 190		
Asp Thr Ser Phe Asn Asn Ile Tyr Gly Ile Ala Val Ala Met Phe Ile 195 200 205		
Val Val Leu Asp Leu Leu Phe Val Ile Leu Ser Tyr Val Phe Ile Leu 210 215 220		
Gln Ala Val Leu Gln Leu Ala Ser Gln Glu Ala Arg Tyr Lys Ala Phe 225 230 235 240		
Gly Thr Cys Val Ser His Ile Gly Ala Ile Leu Ser Thr Tyr Thr Pro 245 250 255		
Val Val Ile Ser Ser Val Met His Arg Val Ala Arg His Ala Ala Pro 260 265 270		
Arg Val His Ile Leu Leu Ala Ile Phe Tyr Leu Leu Phe Pro Pro Met 275 280 285		
Val Asn Pro Ile Ile Tyr Gly Val Lys Thr Lys Gln Ile Arg Glu Tyr 290 295 300		
Val Leu Ser Leu Phe Gln Arg Lys Asn Met 305 310		
<210> 381		
<211> 957		
<212> DNA		
<213> Homo Sapiens		
<220>		

<221> CDS

<222> (1)..(954)

<223>

<400> 381

atg cct act gta aac cac agt ggc act agc cac aca gtc ttc cac ttg	48
Met Pro Thr Val Asn His Ser Gly Thr Ser His Thr Val Phe His Leu	
1 5 10 15	
ctg ggc atc cct ggc cta cag gac cag cac atg tgg att tct atc cca	96
Leu Gly Ile Pro Gly Leu Gln Asp Gln His Met Trp Ile Ser Ile Pro	
20 25 30	
ttc ttc att tcc tat gtc acc gcc ctt ctt ggg aac agc ctg ctc atc	144
Phe Phe Ile Ser Tyr Val Thr Ala Leu Leu Gly Asn Ser Leu Leu Ile	
35 40 45	
ttc att atc ctc aca aag cgc agc ctc cat gaa ccc atg tac ctc ttc	192
Phe Ile Ile Leu Thr Lys Arg Ser Leu His Glu Pro Met Tyr Leu Phe	
50 55 60	
ctc tgc atg ctg gct gga gca gac att gtc ctc tcc acg tgc acc att	240
Leu Cys Met Leu Ala Gly Ala Asp Ile Val Leu Ser Thr Cys Thr Ile	
65 70 75 80	
cct cag gcc tta gct atc ttc tgg ttc cgt gct ggg gac atc tcc ctg	288
Pro Gln Ala Leu Ala Ile Phe Trp Phe Arg Ala Gly Asp Ile Ser Leu	
85 90 95	
gat cgt tgc atc act cag ctc ttc ttc atc cat tcc acc ttc atc tct	336
Asp Arg Cys Ile Thr Gln Leu Phe Phe Ile His Ser Thr Phe Ile Ser	
100 105 110	
gag tca ggg atc ttg ctg gtg atg gcc ttt gac cac tat att gcc ata	384
Glu Ser Gly Ile Leu Leu Val Met Ala Phe Asp His Tyr Ile Ala Ile	
115 120 125	
tgc tac cca ctg agg tac acc acc att ctt aca aat gct ctg atc aag	432
Cys Tyr Pro Leu Arg Tyr Thr Thr Ile Leu Thr Asn Ala Leu Ile Lys	
130 135 140	
aaa att tgt gtg act gtc tct ctg aga agt tat ggt aca att ttc cct	480
Lys Ile Cys Val Thr Val Ser Leu Arg Ser Tyr Gly Thr Ile Phe Pro	
145 150 155 160	
atc ata ttt ctt tta aaa aga ttg act ttc tgc cag aat aat att att	528
Ile Ile Phe Leu Leu Lys Arg Leu Thr Phe Cys Gln Asn Asn Ile Ile	
165 170 175	
cca cac acc ttt tgt gaa cac att ggc cta gcc aaa tat gca tgt aat	576
Pro His Thr Phe Cys Glu His Ile Gly Leu Ala Lys Tyr Ala Cys Asn	
180 185 190	
gac att cga ata aac att tgg tat ggg ttt tcc att cta atg tgc acg	624
Asp Ile Arg Ile Asn Ile Trp Tyr Gly Phe Ser Ile Leu Met Ser Thr	
195 200 205	
gtg gtc tta gat gtt gta cta att ttt att tcc tat atg ctg att ctc	672
Val Val Leu Asp Val Val Leu Ile Phe Ile Ser Tyr Met Leu Ile Leu	
210 215 220	

cat gct gtc ttc cac atg cct tct cca gat gct tgc cac aaa gct ctc 720
 His Ala Val Phe His Met Pro Ser Pro Asp Ala Cys His Lys Ala Leu
 225 230 235 240

aac aca ttt ggc tcc cat gtc tgc atc atc atc ctc ttt tat ggg tct 768
 Asn Thr Phe Gly Ser His Val Cys Ile Ile Ile Leu Phe Tyr Gly Ser
 245 250 255

ggc atc ttc aca atc ctt acc cag agg ttt gga cgc cac att cca cct 816
 Gly Ile Phe Thr Ile Leu Thr Gln Arg Phe Gly Arg His Ile Pro Pro
 260 265 270

tgt atc cac atc ccg ttg gct aat gtc tgc att ctg gct cca cct atg 864
 Cys Ile His Ile Pro Leu Ala Asn Val Cys Ile Leu Ala Pro Pro Met
 275 280 285

ctg aat ccc att att tat ggg atc aaa acc aag caa atc cag gaa cag 912
 Leu Asn Pro Ile Ile Tyr Gly Ile Lys Thr Lys Gln Ile Gln Glu Gln
 290 295 300

gtg gtt cag ttt ttg ttt ata aaa cag aaa ata act ttg gtt taa 957
 Val Val Gln Phe Leu Phe Ile Lys Gln Lys Ile Thr Leu Val
 305 310 315

<210> 382
 <211> 318
 <212> PRT
 <213> Homo Sapiens

<400> 382

Met Pro Thr Val Asn His Ser Gly Thr Ser His Thr Val Phe His Leu
 1 5 10 15

Leu Gly Ile Pro Gly Leu Gln Asp Gln His Met Trp Ile Ser Ile Pro
 20 25 30

Phe Phe Ile Ser Tyr Val Thr Ala Leu Leu Gly Asn Ser Leu Leu Ile
 35 40 45

Phe Ile Ile Leu Thr Lys Arg Ser Leu His Glu Pro Met Tyr Leu Phe
 50 55 60

Leu Cys Met Leu Ala Gly Ala Asp Ile Val Leu Ser Thr Cys Thr Ile
 65 70 75 80

Pro Gln Ala Leu Ala Ile Phe Trp Phe Arg Ala Gly Asp Ile Ser Leu
 85 90 95

Asp Arg Cys Ile Thr Gln Leu Phe Phe Ile His Ser Thr Phe Ile Ser
 100 105 110

Glu Ser Gly Ile Leu Leu Val Met Ala Phe Asp His Tyr Ile Ala Ile
 115 120 125

Cys Tyr Pro Leu Arg Tyr Thr Thr Ile Leu Thr Asn Ala Leu Ile Lys
 130 135 140

Lys Ile Cys Val Thr Val Ser Leu Arg Ser Tyr Gly Thr Ile Phe Pro
 145 150 155 160

Ile Ile Phe Leu Leu Lys Arg Leu Thr Phe Cys Gln Asn Asn Ile Ile
 165 170 175

Pro His Thr Phe Cys Glu His Ile Gly Leu Ala Lys Tyr Ala Cys Asn
 180 185 190

Asp Ile Arg Ile Asn Ile Trp Tyr Gly Phe Ser Ile Leu Met Ser Thr
 195 200 205

Val Val Leu Asp Val Val Leu Ile Phe Ile Ser Tyr Met Leu Ile Leu
 210 215 220

His Ala Val Phe His Met Pro Ser Pro Asp Ala Cys His Lys Ala Leu
 225 230 235 240

Asn Thr Phe Gly Ser His Val Cys Ile Ile Ile Leu Phe Tyr Gly Ser
 245 250 255

Gly Ile Phe Thr Ile Leu Thr Gln Arg Phe Gly Arg His Ile Pro Pro
 260 265 270

Cys Ile His Ile Pro Leu Ala Asn Val Cys Ile Leu Ala Pro Pro Met
 275 280 285

Leu Asn Pro Ile Ile Tyr Gly Ile Lys Thr Lys Gln Ile Gln Glu Gln
 290 295 300

Val Val Gln Phe Leu Phe Ile Lys Gln Lys Ile Thr Leu Val
 305 310 315

<210> 383
 <211> 966
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1)..(963)
 <223>

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<400> 383
atg tct ggg gac aac agc tcc agc ctg acc cca gga ttc ttt atc ttg      48
Met Ser Gly Asp Asn Ser Ser Ser Leu Thr Pro Gly Phe Phe Ile Leu
1          5          10          15

aat ggc gtt cct ggg ctg gaa gcc aca cac atc tgg atc tcc ctg cca      96
Asn Gly Val Pro Gly Leu Glu Ala Thr His Ile Trp Ile Ser Leu Pro
          20          25          30

ttc tgc ttt atg tac atc att gct gtc gtg ggg aac tgt ggg ctc atc      144
Phe Cys Phe Met Tyr Ile Ile Ala Val Val Gly Asn Cys Gly Leu Ile
          35          40          45

tgc ctc atc agc cat gag gag gcc ctg cac cgg ccc atg tac tac ttc      192
Cys Leu Ile Ser His Glu Glu Ala Leu His Arg Pro Met Tyr Tyr Phe
          50          55          60

ctg gcc ctg ctc tcc ttc act gat gtc acc ttg tgc acc acc atg gta      240
Leu Ala Leu Leu Ser Phe Thr Asp Val Thr Leu Cys Thr Thr Met Val
          65          70          75          80

cct aat atg ctg tgc ata ttc tgg ttc aac ctc aag gag att gac ttt      288
Pro Asn Met Leu Cys Ile Phe Trp Phe Asn Leu Lys Glu Ile Asp Phe
          85          90          95

aac gcc tgc ctg gcc cag atg ttt ttt gtc cat atg ctg aca ggg atg      336
Asn Ala Cys Leu Ala Gln Met Phe Phe Val His Met Leu Thr Gly Met
          100          105          110

gag tct ggg gtg ctc atg ctc atg gcc ctg gac cgc tat gtg gcc atc      384
Glu Ser Gly Val Leu Met Leu Met Ala Leu Asp Arg Tyr Val Ala Ile
          115          120          125

tgc tac ccc tta cgc tat gcc acc atc ctt acc aac cct gtc atc gcc      432
Cys Tyr Pro Leu Arg Tyr Ala Thr Ile Leu Thr Asn Pro Val Ile Ala
          130          135          140

aag gct ggt ctt gcc acc ttc ttg agg aat gtg atg ctc atc atc cca      480
Lys Ala Gly Leu Ala Thr Phe Leu Arg Asn Val Met Leu Ile Ile Pro
          145          150          155          160

ttc act ctc ctc acc aag cgc ctg ccc tat tgc cgg ggg aac ttc atc      528
Phe Thr Leu Leu Thr Lys Arg Leu Pro Tyr Cys Arg Gly Asn Phe Ile
          165          170          175

ccc cac acc tac tgt gac cat atg tct gtg gcc aag gta tcc tgt ggc      576
Pro His Thr Tyr Cys Asp His Met Ser Val Ala Lys Val Ser Cys Gly
          180          185          190

aat ttc aag gtc aat gct att tat ggt ctg atg gtt gct ctc ctg att      624
Asn Phe Lys Val Asn Ala Ile Tyr Gly Leu Met Val Ala Leu Leu Ile
          195          200          205

ggg gtg ttt gat atc tgc tgt atc tct gta tct tac act atg att ttg      672
Gly Val Phe Asp Ile Cys Cys Ile Ser Val Ser Tyr Thr Met Ile Leu
          210          215          220

cag gct gtt atg agc ctg tca tca gca gat gct cgt cac aaa gcc ttc      720
Gln Ala Val Met Ser Leu Ser Ser Ala Asp Ala Arg His Lys Ala Phe

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225	230	235	240	
agc acc tgc aca tct cac atg tgt tcc att gtg atc acc tat gtt gct				768
Ser Thr Cys Thr Ser His Met Cys Ser Ile Val Ile Thr Tyr Val Ala	245	250	255	
gct ttt ttc act ttt ttc act cat cgt ttt gta gga cac aat atc cca				816
Ala Phe Phe Thr Phe Phe Thr His Arg Phe Val Gly His Asn Ile Pro	260	265	270	
aac cac ata cac atc atc gtg gcc aac ctt tat ctg cta ctg cct cct				864
Asn His Ile His Ile Ile Val Ala Asn Leu Tyr Leu Leu Leu Pro Pro	275	280	285	
acc atg aac cca att gtt tat gga gtc aag acc aag cag att cag gaa				912
Thr Met Asn Pro Ile Val Tyr Gly Val Lys Thr Lys Gln Ile Gln Glu	290	295	300	
ggt gta att aaa ttt tta ctt gga gac aag gtt agt ttt acc tat gac				960
Gly Val Ile Lys Phe Leu Leu Gly Asp Lys Val Ser Phe Thr Tyr Asp	305	310	315	320
aaa tga				966
Lys				

<210> 384
 <211> 321
 <212> PRT
 <213> Homo Sapiens

<400> 384

Met Ser Gly Asp Asn Ser Ser Ser Leu Thr Pro Gly Phe Phe Ile Leu	1	5	10	15
Asn Gly Val Pro Gly Leu Glu Ala Thr His Ile Trp Ile Ser Leu Pro	20	25	30	
Phe Cys Phe Met Tyr Ile Ile Ala Val Val Gly Asn Cys Gly Leu Ile	35	40	45	
Cys Leu Ile Ser His Glu Glu Ala Leu His Arg Pro Met Tyr Tyr Phe	50	55	60	
Leu Ala Leu Leu Ser Phe Thr Asp Val Thr Leu Cys Thr Thr Met Val	65	70	75	80
Pro Asn Met Leu Cys Ile Phe Trp Phe Asn Leu Lys Glu Ile Asp Phe	85	90	95	
Asn Ala Cys Leu Ala Gln Met Phe Phe Val His Met Leu Thr Gly Met	100	105	110	

Glu Ser Gly Val Leu Met Leu Met Ala Leu Asp Arg Tyr Val Ala Ile
 115 120 125

Cys Tyr Pro Leu Arg Tyr Ala Thr Ile Leu Thr Asn Pro Val Ile Ala
 130 135 140

Lys Ala Gly Leu Ala Thr Phe Leu Arg Asn Val Met Leu Ile Ile Pro
 145 150 155 160

Phe Thr Leu Leu Thr Lys Arg Leu Pro Tyr Cys Arg Gly Asn Phe Ile
 165 170 175

Pro His Thr Tyr Cys Asp His Met Ser Val Ala Lys Val Ser Cys Gly
 180 185 190

Asn Phe Lys Val Asn Ala Ile Tyr Gly Leu Met Val Ala Leu Leu Ile
 195 200 205

Gly Val Phe Asp Ile Cys Cys Ile Ser Val Ser Tyr Thr Met Ile Leu
 210 215 220

Gln Ala Val Met Ser Leu Ser Ser Ala Asp Ala Arg His Lys Ala Phe
 225 230 235 240

Ser Thr Cys Thr Ser His Met Cys Ser Ile Val Ile Thr Tyr Val Ala
 245 250 255

Ala Phe Phe Thr Phe Phe Thr His Arg Phe Val Gly His Asn Ile Pro
 260 265 270

Asn His Ile His Ile Ile Val Ala Asn Leu Tyr Leu Leu Leu Pro Pro
 275 280 285

Thr Met Asn Pro Ile Val Tyr Gly Val Lys Thr Lys Gln Ile Gln Glu
 290 295 300

Gly Val Ile Lys Phe Leu Leu Gly Asp Lys Val Ser Phe Thr Tyr Asp
 305 310 315 320

Lys

<210> 385
 <211> 984
 <212> DNA
 <213> Homo Sapiens

<220>

<221> CDS

<222> (1) .. (981)

<223>

<400> 385

atg ctt cat acc aac aat aca cag ttt cac cct tcc acc ttc ctc gta	48
Met Leu His Thr Asn Asn Thr Gln Phe His Pro Ser Thr Phe Leu Val	
1 5 10 15	
gtg ggg gtc cca ggg ctg gaa gat gtg cat gta tgg att ggc ttc ccc	96
Val Gly Val Pro Gly Leu Glu Asp Val His Val Trp Ile Gly Phe Pro	
20 25 30	
ttc ttt gcg gtg tat cta aca gcc ctt cta ggg aac atc att atc ctg	144
Phe Phe Ala Val Tyr Leu Thr Ala Leu Leu Gly Asn Ile Ile Ile Leu	
35 40 45	
ttt gtg ata cag act gaa cag agc ctc cac caa ccc atg ttt tac ttc	192
Phe Val Ile Gln Thr Glu Gln Ser Leu His Gln Pro Met Phe Tyr Phe	
50 55 60	
cta gcc atg ttg gcc ggc act gat ctg ggc ttg tct aca gca acc atc	240
Leu Ala Met Leu Ala Gly Thr Asp Leu Gly Leu Ser Thr Ala Thr Ile	
65 70 75 80	
ccc aag atg ctg gga att ttc tgg ttt aat ctt gga gag att gca ttt	288
Pro Lys Met Leu Gly Ile Phe Trp Phe Asn Leu Gly Glu Ile Ala Phe	
85 90 95	
ggc gcc tgc atc aca cag atg tat acc att cat ata tgc act ggc ctg	336
Gly Ala Cys Ile Thr Gln Met Tyr Thr Ile His Ile Cys Thr Gly Leu	
100 105 110	
gag tct gtg gta ctg aca gtc acg ggc ata gat cgc tat att gcc atc	384
Glu Ser Val Val Leu Thr Val Thr Gly Ile Asp Arg Tyr Ile Ala Ile	
115 120 125	
tgc aac ccc ctg aga tat agc atg atc ctt acc aac aag gta ata gcc	432
Cys Asn Pro Leu Arg Tyr Ser Met Ile Leu Thr Asn Lys Val Ile Ala	
130 135 140	
att ctg ggc ata gtc atc att gtc agg act ttg gta ttt gtg act cca	480
Ile Leu Gly Ile Val Ile Ile Val Arg Thr Leu Val Phe Val Thr Pro	
145 150 155 160	
ttc aca ttt ctc acc ctg aga ttg cct ttc tgt ggt gtc cgg att atc	528
Phe Thr Phe Leu Thr Leu Arg Leu Pro Phe Cys Gly Val Arg Ile Ile	
165 170 175	
cct cat acc tat tgt gaa cac atg ggc ttg gca aag tta gct tgt gcc	576
Pro His Thr Tyr Cys Glu His Met Gly Leu Ala Lys Leu Ala Cys Ala	
180 185 190	
agt att aat gtt ata tat gga ttg att gcc ttc tca gtg gga tac att	624
Ser Ile Asn Val Ile Tyr Gly Leu Ile Ala Phe Ser Val Gly Tyr Ile	
195 200 205	
gac att tct gtg att gga ttt tcc tat gtc cag atc ctc cga gct gtc	672

Asp Ile Ser Val Ile Gly Phe Ser Tyr Val Gln Ile Leu Arg Ala Val
 210 215 220
 ttc cat ctc cca gcc tgg gat gcc cgg ctt aag gca ctc agc aca tgt 720
 Phe His Leu Pro Ala Trp Asp Ala Arg Leu Lys Ala Leu Ser Thr Cys
 225 230 235 240
 ggc tct cac gtc tgt gtt atg ttg gct ttc tac ctg cca gcc ctc ttt 768
 Gly Ser His Val Cys Val Met Leu Ala Phe Tyr Leu Pro Ala Leu Phe
 245 250 255
 tcc ttc atg aca cac cgc ttt ggc cac aac atc cct cat tac atc cac 816
 Ser Phe Met Thr His Arg Phe Gly His Asn Ile Pro His Tyr Ile His
 260 265 270
 att ctt ctg gcc aat ctg tat gtg gtt ttt ccc cct gct ctt aac tct 864
 Ile Leu Leu Ala Asn Leu Tyr Val Val Phe Pro Pro Ala Leu Asn Ser
 275 280 285
 gtt atc tat ggg gtc aaa aca aaa cag ata cga gag cag gta ctt agg 912
 Val Ile Tyr Gly Val Lys Thr Lys Gln Ile Arg Glu Gln Val Leu Arg
 290 295 300
 ata ctc aac cct aaa agc ttt tgg cat ttt gac ccc aag agg atc ttc 960
 Ile Leu Asn Pro Lys Ser Phe Trp His Phe Asp Pro Lys Arg Ile Phe
 305 310 315 320
 cac aac aat tca gtt aga caa taa 984
 His Asn Asn Ser Val Arg Gln
 325

<210> 386
 <211> 327
 <212> PRT
 <213> Homo Sapiens

<400> 386

Met Leu His Thr Asn Asn Thr Gln Phe His Pro Ser Thr Phe Leu Val
 1 5 10 15

Val Gly Val Pro Gly Leu Glu Asp Val His Val Trp Ile Gly Phe Pro
 20 25 30

Phe Phe Ala Val Tyr Leu Thr Ala Leu Leu Gly Asn Ile Ile Ile Leu
 35 40 45

Phe Val Ile Gln Thr Glu Gln Ser Leu His Gln Pro Met Phe Tyr Phe
 50 55 60

Leu Ala Met Leu Ala Gly Thr Asp Leu Gly Leu Ser Thr Ala Thr Ile
 65 70 75 80

Pro Lys Met Leu Gly Ile Phe Trp Phe Asn Leu Gly Glu Ile Ala Phe
 85 90 95

Gly Ala Cys Ile Thr Gln Met Tyr Thr Ile His Ile Cys Thr Gly Leu
 100 105 110

Glu Ser Val Val Leu Thr Val Thr Gly Ile Asp Arg Tyr Ile Ala Ile
 115 120 125

Cys Asn Pro Leu Arg Tyr Ser Met Ile Leu Thr Asn Lys Val Ile Ala
 130 135 140

Ile Leu Gly Ile Val Ile Ile Val Arg Thr Leu Val Phe Val Thr Pro
 145 150 155 160

Phe Thr Phe Leu Thr Leu Arg Leu Pro Phe Cys Gly Val Arg Ile Ile
 165 170 175

Pro His Thr Tyr Cys Glu His Met Gly Leu Ala Lys Leu Ala Cys Ala
 180 185 190

Ser Ile Asn Val Ile Tyr Gly Leu Ile Ala Phe Ser Val Gly Tyr Ile
 195 200 205

Asp Ile Ser Val Ile Gly Phe Ser Tyr Val Gln Ile Leu Arg Ala Val
 210 215 220

Phe His Leu Pro Ala Trp Asp Ala Arg Leu Lys Ala Leu Ser Thr Cys
 225 230 235 240

Gly Ser His Val Cys Val Met Leu Ala Phe Tyr Leu Pro Ala Leu Phe
 245 250 255

Ser Phe Met Thr His Arg Phe Gly His Asn Ile Pro His Tyr Ile His
 260 265 270

Ile Leu Leu Ala Asn Leu Tyr Val Val Phe Pro Pro Ala Leu Asn Ser
 275 280 285

Val Ile Tyr Gly Val Lys Thr Lys Gln Ile Arg Glu Gln Val Leu Arg
 290 295 300

Ile Leu Asn Pro Lys Ser Phe Trp His Phe Asp Pro Lys Arg Ile Phe
 305 310 315 320

His Asn Asn Ser Val Arg Gln
 325

<210> 387
 <211> 963
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1)..(960)
 <223>

<400> 387
 atg tca ttt cta aat ggc acc agc cta act cca gct tca ttc atc cta 48
 Met Ser Phe Leu Asn Gly Thr Ser Leu Thr Pro Ala Ser Phe Ile Leu
 1 5 10 15
 aat ggc atc cct ggt ttg gaa gat gtg cat ttg tgg atc tcc ttc cca 96
 Asn Gly Ile Pro Gly Leu Glu Asp Val His Leu Trp Ile Ser Phe Pro
 20 25 30
 ctg tgt acc atg tac agc att gct att aca ggg aac ttc ggc ctt atg 144
 Leu Cys Thr Met Tyr Ser Ile Ala Ile Thr Gly Asn Phe Gly Leu Met
 35 40 45
 tac ctc atc tac tgt gat gag gcc tta cac aga cct atg tat gtc ttc 192
 Tyr Leu Ile Tyr Cys Asp Glu Ala Leu His Arg Pro Met Tyr Val Phe
 50 55 60
 ctt gcc ctt ctt tcc ttc aca gat gtg ctc atg tgc acc agc acc ctt 240
 Leu Ala Leu Leu Ser Phe Thr Asp Val Leu Met Cys Thr Ser Thr Leu
 65 70 75 80
 ccc aac act ctc ttc ata ttg tgg ttt aat ctc aag gag att gat ttt 288
 Pro Asn Thr Leu Phe Ile Leu Trp Phe Asn Leu Lys Glu Ile Asp Phe
 85 90 95
 aaa gcc tgc ctc gcc cag atg ttc ttt gtg cac acc ttc aca ggg atg 336
 Lys Ala Cys Leu Ala Gln Met Phe Phe Val His Thr Phe Thr Gly Met
 100 105 110
 gag tct ggg gtg ctc atg ctg atg gcc ctg gac cac tgt gtg gcc atc 384
 Glu Ser Gly Val Leu Met Leu Met Ala Leu Asp His Cys Val Ala Ile
 115 120 125
 tgc ttc cct ctg cgt tat gcc acc atc ctc act aat tca gtc att gct 432
 Cys Phe Pro Leu Arg Tyr Ala Thr Ile Leu Thr Asn Ser Val Ile Ala
 130 135 140
 aaa gct ggg ttc ctc act ttt ctt agg ggt gtg atg ctt gtt atc cct 480
 Lys Ala Gly Phe Leu Thr Phe Leu Arg Gly Val Met Leu Val Ile Pro
 145 150 155 160
 tcc act ttc ctc acc aag cgc ctt cca tac tgc aag ggc aac gtc ata 528
 Ser Thr Phe Leu Thr Lys Arg Leu Pro Tyr Cys Lys Gly Asn Val Ile
 165 170 175
 ccc cac acc tac tgt gac cac atg tct gtg gcc aag ata tct tgt ggt 576
 Pro His Thr Tyr Cys Asp His Met Ser Val Ala Lys Ile Ser Cys Gly
 180 185 190

aat gtc agg gtt aac gcc atc tat ggt ttg ata gtt gcc ctg ctg att 624
 Asn Val Arg Val Asn Ala Ile Tyr Gly Leu Ile Val Ala Leu Leu Ile
 195 200 205
 ggg ggc ttt gat atc ctg tgc att aca atc tcc tac act atg att ctt 672
 Gly Gly Phe Asp Ile Leu Cys Ile Thr Ile Ser Tyr Thr Met Ile Leu
 210 215 220
 caa gca gtt gtg agt cta tca tca gca gat gct cga cag aag gcc ttc 720
 Gln Ala Val Val Ser Leu Ser Ser Ala Asp Ala Arg Gln Lys Ala Phe
 225 230 235 240
 agc acc tgc act gcc cac ttc tgt gcc ata gtc ctc acc tat gtt cca 768
 Ser Thr Cys Thr Ala His Phe Cys Ala Ile Val Leu Thr Tyr Val Pro
 245 250 255
 gcc ttc ttt acc ttc ttt aca cac cat ttt ggg gga cac acc att cct 816
 Ala Phe Phe Thr Phe Phe Thr His His Phe Gly Gly His Thr Ile Pro
 260 265 270
 cta cac ata cat att att atg gct aat ctc tac cta cta atg cct ccc 864
 Leu His Ile His Ile Ile Met Ala Asn Leu Tyr Leu Leu Met Pro Pro
 275 280 285
 aca atg aac cct att gtg tat ggg gtg aaa acc agg cag gta cga gaa 912
 Thr Met Asn Pro Ile Val Tyr Gly Val Lys Thr Arg Gln Val Arg Glu
 290 295 300
 agt gtc att agg ttc ttt ctt aag gga aag gac aat tct cat aac ttt 960
 Ser Val Ile Arg Phe Phe Leu Lys Gly Lys Asp Asn Ser His Asn Phe
 305 310 315 320
 taa 963

<210> 388
 <211> 320
 <212> PRT
 <213> Homo Sapiens

<400> 388

Met Ser Phe Leu Asn Gly Thr Ser Leu Thr Pro Ala Ser Phe Ile Leu
1 5 10 15

Asn Gly Ile Pro Gly Leu Glu Asp Val His Leu Trp Ile Ser Phe Pro
20 25 30

Leu Cys Thr Met Tyr Ser Ile Ala Ile Thr Gly Asn Phe Gly Leu Met
35 40 45

Tyr Leu Ile Tyr Cys Asp Glu Ala Leu His Arg Pro Met Tyr Val Phe
50 55 60

Leu Ala Leu Leu Ser Phe Thr Asp Val Leu Met Cys Thr Ser Thr Leu
65 70 75 80

Pro Asn Thr Leu Phe Ile Leu Trp Phe Asn Leu Lys Glu Ile Asp Phe
85 90 95

Lys Ala Cys Leu Ala Gln Met Phe Phe Val His Thr Phe Thr Gly Met
100 105 110

Glu Ser Gly Val Leu Met Leu Met Ala Leu Asp His Cys Val Ala Ile
115 120 125

Cys Phe Pro Leu Arg Tyr Ala Thr Ile Leu Thr Asn Ser Val Ile Ala
130 135 140

Lys Ala Gly Phe Leu Thr Phe Leu Arg Gly Val Met Leu Val Ile Pro
145 150 155 160

Ser Thr Phe Leu Thr Lys Arg Leu Pro Tyr Cys Lys Gly Asn Val Ile
165 170 175

Pro His Thr Tyr Cys Asp His Met Ser Val Ala Lys Ile Ser Cys Gly
180 185 190

Asn Val Arg Val Asn Ala Ile Tyr Gly Leu Ile Val Ala Leu Leu Ile
195 200 205

Gly Gly Phe Asp Ile Leu Cys Ile Thr Ile Ser Tyr Thr Met Ile Leu
210 215 220

Gln Ala Val Val Ser Leu Ser Ser Ala Asp Ala Arg Gln Lys Ala Phe
225 230 235 240

Ser Thr Cys Thr Ala His Phe Cys Ala Ile Val Leu Thr Tyr Val Pro
245 250 255

Ala Phe Phe Thr Phe Phe Thr His His Phe Gly Gly His Thr Ile Pro
260 265 270

Leu His Ile His Ile Ile Met Ala Asn Leu Tyr Leu Leu Met Pro Pro
275 280 285

Thr Met Asn Pro Ile Val Tyr Gly Val Lys Thr Arg Gln Val Arg Glu
290 295 300

Ser Val Ile Arg Phe Phe Leu Lys Gly Lys Asp Asn Ser His Asn Phe
305 310 315 320

<210> 389
 <211> 948
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1) .. (945)
 <223>

<400> 389
 atg aca aca cac cga aat gac acc ctc tcc act gaa gct tca gac ttc 48
 Met Thr Thr His Arg Asn Asp Thr Leu Ser Thr Glu Ala Ser Asp Phe
 1 5 10 15
 ctc ttg aat tgt ttt gtc aga tcc ccc agc tgg cag cac tgg ctg tcc 96
 Leu Leu Asn Cys Phe Val Arg Ser Pro Ser Trp Gln His Trp Leu Ser
 20 25 30
 ctg ccc ctc agc ctc ctt ttc ctc ttg gcc gta ggg gcc aac acc acc 144
 Leu Pro Leu Ser Leu Leu Phe Leu Leu Ala Val Gly Ala Asn Thr Thr
 35 40 45
 ctc ctg atg acc atc tgg ctg gag gcc tct ctg cac cag ccc ctg tac 192
 Leu Leu Met Thr Ile Trp Leu Glu Ala Ser Leu His Gln Pro Leu Tyr
 50 55 60
 tac ctg ctc agc ctc ctc tcc ctg ctg gac atc gtg ctc tgc ctc act 240
 Tyr Leu Leu Ser Leu Leu Ser Leu Leu Asp Ile Val Leu Cys Leu Thr
 65 70 75 80
 gtc atc ccc aag gtc ctg acc atc ttc tgg ttt gac ctc agg ccc atc 288
 Val Ile Pro Lys Val Leu Thr Ile Phe Trp Phe Asp Leu Arg Pro Ile
 85 90 95
 agc ttc cct gcc tgc ttc ctc cag atg tac atc atg aat tgt ttc cta 336
 Ser Phe Pro Ala Cys Phe Leu Gln Met Tyr Ile Met Asn Cys Phe Leu
 100 105 110
 gcc atg gag tct tgc aca ttc atg gtc atg gcc tat gat cgt tat gta 384
 Ala Met Glu Ser Cys Thr Phe Met Val Met Ala Tyr Asp Arg Tyr Val
 115 120 125
 gcc atc tgc cac cca ctg aga tat cca tca atc atc act gat cac ttt 432
 Ala Ile Cys His Pro Leu Arg Tyr Pro Ser Ile Ile Thr Asp His Phe
 130 135 140
 gta gtc aag gct gcc atg ttt att ttg acc aga aat gtg ctt atg act 480
 Val Val Lys Ala Ala Met Phe Ile Leu Thr Arg Asn Val Leu Met Thr
 145 150 155 160
 ctg ccc atc ccc atc ctt tca gca caa ctc cgt tat tgt gga aga aat 528
 Leu Pro Ile Pro Ile Leu Ser Ala Gln Leu Arg Tyr Cys Gly Arg Asn
 165 170 175
 gtc att gag aac tgc atc tgt gcc aat atg tct gtt tcc aga ctc tcc 576
 Val Ile Glu Asn Cys Ile Cys Ala Asn Met Ser Val Ser Arg Leu Ser
 180 185 190
 tgc gat gat gtc acc atc aat cac ctt tac caa ttt gct gga ggc tgg 624

Cys Asp Asp Val Thr Ile Asn His Leu Tyr Gln Phe Ala Gly Gly Trp
 195 200 205
 act ctg cta gga tct gac ctc atc ctt atc ttc ctc tcc tac acc ttc 672
 Thr Leu Leu Gly Ser Asp Leu Ile Leu Ile Phe Leu Ser Tyr Thr Phe
 210 215 220
 att ctg cga gct gtg ctg aga ctc aag gca gag ggt gcc gtg gca aag 720
 Ile Leu Arg Ala Val Leu Arg Leu Lys Ala Glu Gly Ala Val Ala Lys
 225 230 235 240
 gcc cta agc aca tgt ggc tcc cac ttc atg ctc atc ctc ttc ttc agc 768
 Ala Leu Ser Thr Cys Gly Ser His Phe Met Leu Ile Leu Phe Phe Ser
 245 250 255
 acc atc ctt ctg gtt ttt gtc ctc aca cat gtg gct aag aag aaa gtc 816
 Thr Ile Leu Leu Val Phe Val Leu Thr His Val Ala Lys Lys Lys Val
 260 265 270
 tcc cct gat gtg cca gtc ttg ctc aat gtt ctc cac cat gtc att cct 864
 Ser Pro Asp Val Pro Val Leu Leu Asn Val Leu His His Val Ile Pro
 275 280 285
 gca gcc ctt aac ccc atc att tac ggg gtg aga acc caa gaa att aag 912
 Ala Ala Leu Asn Pro Ile Ile Tyr Gly Val Arg Thr Gln Glu Ile Lys
 290 295 300
 cag gga atg cag agg ttg ttg aag aaa ggg tgc taa 948
 Gln Gly Met Gln Arg Leu Leu Lys Lys Gly Cys
 305 310 315

<210> 390
 <211> 315
 <212> PRT
 <213> Homo Sapiens

<400> 390

Met Thr Thr His Arg Asn Asp Thr Leu Ser Thr Glu Ala Ser Asp Phe
 1 5 10 15

Leu Leu Asn Cys Phe Val Arg Ser Pro Ser Trp Gln His Trp Leu Ser
 20 25 30

Leu Pro Leu Ser Leu Leu Phe Leu Leu Ala Val Gly Ala Asn Thr Thr
 35 40 45

Leu Leu Met Thr Ile Trp Leu Glu Ala Ser Leu His Gln Pro Leu Tyr
 50 55 60

Tyr Leu Leu Ser Leu Leu Ser Leu Leu Asp Ile Val Leu Cys Leu Thr
 65 70 75 80

Val Ile Pro Lys Val Leu Thr Ile Phe Trp Phe Asp Leu Arg Pro Ile
 85 90 95

Ser Phe Pro Ala Cys Phe Leu Gln Met Tyr Ile Met Asn Cys Phe Leu
 100 105 110

Ala Met Glu Ser Cys Thr Phe Met Val Met Ala Tyr Asp Arg Tyr Val
 115 120 125

Ala Ile Cys His Pro Leu Arg Tyr Pro Ser Ile Ile Thr Asp His Phe
 130 135 140

Val Val Lys Ala Ala Met Phe Ile Leu Thr Arg Asn Val Leu Met Thr
 145 150 155 160

Leu Pro Ile Pro Ile Leu Ser Ala Gln Leu Arg Tyr Cys Gly Arg Asn
 165 170 175

Val Ile Glu Asn Cys Ile Cys Ala Asn Met Ser Val Ser Arg Leu Ser
 180 185 190

Cys Asp Asp Val Thr Ile Asn His Leu Tyr Gln Phe Ala Gly Gly Trp
 195 200 205

Thr Leu Leu Gly Ser Asp Leu Ile Leu Ile Phe Leu Ser Tyr Thr Phe
 210 215 220

Ile Leu Arg Ala Val Leu Arg Leu Lys Ala Glu Gly Ala Val Ala Lys
 225 230 235 240

Ala Leu Ser Thr Cys Gly Ser His Phe Met Leu Ile Leu Phe Phe Ser
 245 250 255

Thr Ile Leu Leu Val Phe Val Leu Thr His Val Ala Lys Lys Lys Val
 260 265 270

Ser Pro Asp Val Pro Val Leu Leu Asn Val Leu His His Val Ile Pro
 275 280 285

Ala Ala Leu Asn Pro Ile Ile Tyr Gly Val Arg Thr Gln Glu Ile Lys
 290 295 300

Gln Gly Met Gln Arg Leu Leu Lys Lys Gly Cys
 305 310 315

<210> 391

<211> 942

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(939)

<223>

<400> 391

atg cct ata gct aac gac acc cag ttc cat act tct tca ttc cta ctg	48
Met Pro Ile Ala Asn Asp Thr Gln Phe His Thr Ser Ser Phe Leu Leu	
1 5 10 15	

ctg ggt atc cca ggg cta gaa gat gtg cac atc tgg att gga ttc cct	96
Leu Gly Ile Pro Gly Leu Glu Asp Val His Ile Trp Ile Gly Phe Pro	
20 25 30	

ttt ttc tct gtg tat ctt att gca ctc ctg gga aat gct gct atc ttc	144
Phe Phe Ser Val Tyr Leu Ile Ala Leu Leu Gly Asn Ala Ala Ile Phe	
35 40 45	

ttt gtg atc caa act gag cag agt ctc cat gag ccc atg tac tac tgc	192
Phe Val Ile Gln Thr Glu Gln Ser Leu His Glu Pro Met Tyr Tyr Cys	
50 55 60	

ctg gcc atg ttg gat tcc att gac ctg agc ttg tct acg gcc acc att	240
Leu Ala Met Leu Asp Ser Ile Asp Leu Ser Leu Ser Thr Ala Thr Ile	
65 70 75 80	

ccc aaa atg ctg ggc atc ttc tgg ttc aat atc aag gaa ata tct ttt	288
Pro Lys Met Leu Gly Ile Phe Trp Phe Asn Ile Lys Glu Ile Ser Phe	
85 90 95	

gga ggc tac ctt tct cag atg ttc ttc atc cat ttc ttc act gtc atg	336
Gly Gly Tyr Leu Ser Gln Met Phe Phe Ile His Phe Phe Thr Val Met	
100 105 110	

gag agc atc gta ttg gtg gcc atg gcc ttt gac cgc tac att gcc att	384
Glu Ser Ile Val Leu Val Ala Met Ala Phe Asp Arg Tyr Ile Ala Ile	
115 120 125	

tgc aaa cct ctt tgg tac acc atg atc ctc acc agc aaa atc atc agc	432
Cys Lys Pro Leu Trp Tyr Thr Met Ile Leu Thr Ser Lys Ile Ile Ser	
130 135 140	

ctc att gca ggc att gct gtc ctg agg agc ttg tac atg gtc att cca	480
Leu Ile Ala Gly Ile Ala Val Leu Arg Ser Leu Tyr Met Val Ile Pro	
145 150 155 160	

ctg gtg ttt ctc ctc tta agg ttg ccc ttc tgt gga cat cgt atc atc	528
Leu Val Phe Leu Leu Leu Arg Leu Pro Phe Cys Gly His Arg Ile Ile	
165 170 175	

cct cat act tac tgt gag cac atg ggc att gcc cgt ctg gcc tgt gcc	576
Pro His Thr Tyr Cys Glu His Met Gly Ile Ala Arg Leu Ala Cys Ala	
180 185 190	

agc atc aaa gtc aac att atg ttt ggt ctt ggc agt att tct ctc ttg	624
Ser Ile Lys Val Asn Ile Met Phe Gly Leu Gly Ser Ile Ser Leu Leu	
195 200 205	

tta ttg gat gtg ctc ctt att att ctc tcc cat atc agg atc ctc tat 672
 Leu Leu Asp Val Leu Leu Ile Ile Leu Ser His Ile Arg Ile Leu Tyr
 210 215 220
 gct gtc ttc tgc ctg ccc tcc tgg gaa gct cga ctc aaa gct ctc aac 720
 Ala Val Phe Cys Leu Pro Ser Trp Glu Ala Arg Leu Lys Ala Leu Asn
 225 230 235 240
 acc tgt ggc tct cac att ggt gtt atc tta gcc ttt tct aca cca gca 768
 Thr Cys Gly Ser His Ile Gly Val Ile Leu Ala Phe Ser Thr Pro Ala
 245 250 255
 ttt ttc tct ttc ttt aca cac tgc ttt ggc cat gat att ccc caa tat 816
 Phe Phe Ser Phe Phe Thr His Cys Phe Gly His Asp Ile Pro Gln Tyr
 260 265 270
 atc cac att ttc ttg gct aat cta tat gtg gtt gtt cct ccc acc ctc 864
 Ile His Ile Phe Leu Ala Asn Leu Tyr Val Val Val Pro Pro Thr Leu
 275 280 285
 aat cct gta atc tat ggg gtc aga acc aaa cat att agg gag aca gtg 912
 Asn Pro Val Ile Tyr Gly Val Arg Thr Lys His Ile Arg Glu Thr Val
 290 295 300
 ctg agg att ttc ttc aag aca gat cac taa 942
 Leu Arg Ile Phe Phe Lys Thr Asp His
 305 310

<210> 392
 <211> 313
 <212> PRT
 <213> Homo Sapiens

<400> 392

Met Pro Ile Ala Asn Asp Thr Gln Phe His Thr Ser Ser Phe Leu Leu
 1 5 10 15
 Leu Gly Ile Pro Gly Leu Glu Asp Val His Ile Trp Ile Gly Phe Pro
 20 25 30
 Phe Phe Ser Val Tyr Leu Ile Ala Leu Leu Gly Asn Ala Ala Ile Phe
 35 40 45
 Phe Val Ile Gln Thr Glu Gln Ser Leu His Glu Pro Met Tyr Tyr Cys
 50 55 60
 Leu Ala Met Leu Asp Ser Ile Asp Leu Ser Leu Ser Thr Ala Thr Ile
 65 70 75 80
 Pro Lys Met Leu Gly Ile Phe Trp Phe Asn Ile Lys Glu Ile Ser Phe
 85 90 95
 Gly Gly Tyr Leu Ser Gln Met Phe Phe Ile His Phe Phe Thr Val Met

100	105	110
Glu Ser Ile Val Leu Val Ala Met Ala Phe Asp Arg Tyr Ile Ala Ile		
115	120	125
Cys Lys Pro Leu Trp Tyr Thr Met Ile Leu Thr Ser Lys Ile Ile Ser		
130	135	140
Leu Ile Ala Gly Ile Ala Val Leu Arg Ser Leu Tyr Met Val Ile Pro		
145	150	155
Leu Val Phe Leu Leu Leu Arg Leu Pro Phe Cys Gly His Arg Ile Ile		
165	170	175
Pro His Thr Tyr Cys Glu His Met Gly Ile Ala Arg Leu Ala Cys Ala		
180	185	190
Ser Ile Lys Val Asn Ile Met Phe Gly Leu Gly Ser Ile Ser Leu Leu		
195	200	205
Leu Leu Asp Val Leu Leu Ile Ile Leu Ser His Ile Arg Ile Leu Tyr		
210	215	220
Ala Val Phe Cys Leu Pro Ser Trp Glu Ala Arg Leu Lys Ala Leu Asn		
225	230	235
Thr Cys Gly Ser His Ile Gly Val Ile Leu Ala Phe Ser Thr Pro Ala		
245	250	255
Phe Phe Ser Phe Phe Thr His Cys Phe Gly His Asp Ile Pro Gln Tyr		
260	265	270
Ile His Ile Phe Leu Ala Asn Leu Tyr Val Val Val Pro Pro Thr Leu		
275	280	285
Asn Pro Val Ile Tyr Gly Val Arg Thr Lys His Ile Arg Glu Thr Val		
290	295	300
Leu Arg Ile Phe Phe Lys Thr Asp His		
305	310	

<210> 393
 <211> 939
 <212> DNA
 <213> Homo Sapiens

<220>

<221> CDS
 <222> (1)..(936)
 <223>

<400> 393
 atg cct tct atc aat gac acc cac ttc tat ccc ccc ttc ttc ctc ctg 48
 Met Pro Ser Ile Asn Asp Thr His Phe Tyr Pro Pro Phe Phe Leu Leu
 1 5 10 15
 cta gga ata cca gga ctg gac act tta cat atc tgg att tct ttc cca 96
 Leu Gly Ile Pro Gly Leu Asp Thr Leu His Ile Trp Ile Ser Phe Pro
 20 25 30
 ttc tgt att gtg tac ctg att gcc att gtg ggg aat atg acc att ctc 144
 Phe Cys Ile Val Tyr Leu Ile Ala Ile Val Gly Asn Met Thr Ile Leu
 35 40 45
 ttt gtg atc aaa act gaa cat agt cta cac cag ccc atg ttc tac ttc 192
 Phe Val Ile Lys Thr Glu His Ser Leu His Gln Pro Met Phe Tyr Phe
 50 55 60
 ctg gcc atg ttg tct atg att gat ctg ggt ctg tcc aca tcc act atc 240
 Leu Ala Met Leu Ser Met Ile Asp Leu Gly Leu Ser Thr Ser Thr Ile
 65 70 75 80
 ccc aaa atg cta gga atc ttc tgg ttc aac ctc caa gag atc agc ttt 288
 Pro Lys Met Leu Gly Ile Phe Trp Phe Asn Leu Gln Glu Ile Ser Phe
 85 90 95
 ggg gga tgc ctt ctt cag atg ttc ttt att cac atg ttt aca ggc atg 336
 Gly Gly Cys Leu Leu Gln Met Phe Phe Ile His Met Phe Thr Gly Met
 100 105 110
 gag act gtt ctg ttg gtg gtc atg gct tat gac cgc ttt gtt gcc atc 384
 Glu Thr Val Leu Leu Val Val Met Ala Tyr Asp Arg Phe Val Ala Ile
 115 120 125
 tgc aac cct ctc cag tac acc atg atc ctc acc aat aaa acc atc agt 432
 Cys Asn Pro Leu Gln Tyr Thr Met Ile Leu Thr Asn Lys Thr Ile Ser
 130 135 140
 atc cta gct tct gtg gtt gtt gga aga aat tta gtt ctt gta acc cca 480
 Ile Leu Ala Ser Val Val Val Gly Arg Asn Leu Val Leu Val Thr Pro
 145 150 155 160
 ttt gtg ttt ctc att ctg cgt ctg cca ttc tgt ggg cat aac atc gta 528
 Phe Val Phe Leu Ile Leu Arg Leu Pro Phe Cys Gly His Asn Ile Val
 165 170 175
 cct cac aca tac tgt gag cac agg ggt ctg gcc ggg ttg gcc tgt gca 576
 Pro His Thr Tyr Cys Glu His Arg Gly Leu Ala Gly Leu Ala Cys Ala
 180 185 190
 ccc att aag atc aac ata atc tat ggg ctc atg gtg att tct tat att 624
 Pro Ile Lys Ile Asn Ile Ile Tyr Gly Leu Met Val Ile Ser Tyr Ile
 195 200 205
 att gtg gat gtg atc tta att gcc tct tcc tat gtg ctt atc ctt aga 672
 Ile Val Asp Val Ile Leu Ile Ala Ser Ser Tyr Val Leu Ile Leu Arg
 210 215 220

gct gtt ttt cgc ctt ccc tct caa gat gtc cga cta aag gcc ttc aat 720
 Ala Val Phe Arg Leu Pro Ser Gln Asp Val Arg Leu Lys Ala Phe Asn
 225 230 235 240

acc tgt ggt tct cat gtc tgt gtt atg ctg tgc ttt tac aca cca gca 768
 Thr Cys Gly Ser His Val Cys Val Met Leu Cys Phe Tyr Thr Pro Ala
 245 250 255

ttt ttt tct ttt atg aca cat cgt ttt ggc caa aac att ccc cac tat 816
 Phe Phe Ser Phe Met Thr His Arg Phe Gly Gln Asn Ile Pro His Tyr
 260 265 270

atc cat att ctt ttg gct aac ctg tat gtg gtt gtc cca cct gcc ctt 864
 Ile His Ile Leu Leu Ala Asn Leu Tyr Val Val Val Pro Pro Ala Leu
 275 280 285

aac cct gtc att tat gga gtc agg acc aag cag atc cga gag caa att 912
 Asn Pro Val Ile Tyr Gly Val Arg Thr Lys Gln Ile Arg Glu Gln Ile
 290 295 300

gtg aaa ata ttt gta cag aaa gaa taa 939
 Val Lys Ile Phe Val Gln Lys Glu
 305 310

<210> 394
 <211> 312
 <212> PRT
 <213> Homo Sapiens

<400> 394

Met Pro Ser Ile Asn Asp Thr His Phe Tyr Pro Pro Phe Phe Leu Leu
 1 5 10 15

Leu Gly Ile Pro Gly Leu Asp Thr Leu His Ile Trp Ile Ser Phe Pro
 20 25 30

Phe Cys Ile Val Tyr Leu Ile Ala Ile Val Gly Asn Met Thr Ile Leu
 35 40 45

Phe Val Ile Lys Thr Glu His Ser Leu His Gln Pro Met Phe Tyr Phe
 50 55 60

Leu Ala Met Leu Ser Met Ile Asp Leu Gly Leu Ser Thr Ser Thr Ile
 65 70 75 80

Pro Lys Met Leu Gly Ile Phe Trp Phe Asn Leu Gln Glu Ile Ser Phe
 85 90 95

Gly Gly Cys Leu Leu Gln Met Phe Phe Ile His Met Phe Thr Gly Met
 100 105 110

Glu Thr Val Leu Leu Val Val Met Ala Tyr Asp Arg Phe Val Ala Ile
 115 120 125

Cys Asn Pro Leu Gln Tyr Thr Met Ile Leu Thr Asn Lys Thr Ile Ser
 130 135 140

Ile Leu Ala Ser Val Val Val Gly Arg Asn Leu Val Leu Val Thr Pro
 145 150 155 160

Phe Val Phe Leu Ile Leu Arg Leu Pro Phe Cys Gly His Asn Ile Val
 165 170 175

Pro His Thr Tyr Cys Glu His Arg Gly Leu Ala Gly Leu Ala Cys Ala
 180 185 190

Pro Ile Lys Ile Asn Ile Ile Tyr Gly Leu Met Val Ile Ser Tyr Ile
 195 200 205

Ile Val Asp Val Ile Leu Ile Ala Ser Ser Tyr Val Leu Ile Leu Arg
 210 215 220

Ala Val Phe Arg Leu Pro Ser Gln Asp Val Arg Leu Lys Ala Phe Asn
 225 230 235 240

Thr Cys Gly Ser His Val Cys Val Met Leu Cys Phe Tyr Thr Pro Ala
 245 250 255

Phe Phe Ser Phe Met Thr His Arg Phe Gly Gln Asn Ile Pro His Tyr
 260 265 270

Ile His Ile Leu Leu Ala Asn Leu Tyr Val Val Val Pro Pro Ala Leu
 275 280 285

Asn Pro Val Ile Tyr Gly Val Arg Thr Lys Gln Ile Arg Glu Gln Ile
 290 295 300

Val Lys Ile Phe Val Gln Lys Glu
 305 310

<210> 395
 <211> 954
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1)..(951)
 <223>

<400> 395
 atg gca gga aga atg tct acg tct aat cac acc cag ttc cat cct tct 48
 Met Ala Gly Arg Met Ser Thr Ser Asn His Thr Gln Phe His Pro Ser
 1 5 10 15

tca ttc cta ctg ctg ggt atc cca ggg cta gaa gat gtg cac att tgg 96
 Ser Phe Leu Leu Leu Gly Ile Pro Gly Leu Glu Asp Val His Ile Trp
 20 25 30

att gga gtc cct ttt ttc ttt gtg tat ctt gtt gca ctc ctg gga aac 144
 Ile Gly Val Pro Phe Phe Phe Val Tyr Leu Val Ala Leu Leu Gly Asn
 35 40 45

act gct ctc ttg ttt gtg atc cag act gag cag agt ctc cat gag cct 192
 Thr Ala Leu Leu Phe Val Ile Gln Thr Glu Gln Ser Leu His Glu Pro
 50 55 60

atg tac tac ttc ctg gcc atg ttg gat tcc att gac ctg ggc ttg tct 240
 Met Tyr Tyr Phe Leu Ala Met Leu Asp Ser Ile Asp Leu Gly Leu Ser
 65 70 75 80

aca gcc acc atc ccc aaa atg ttg ggc atc ttc tgg ttc aat acc aaa 288
 Thr Ala Thr Ile Pro Lys Met Leu Gly Ile Phe Trp Phe Asn Thr Lys
 85 90 95

gaa ata tct ttt gga ggc tgc ctt tct cac atg ttc ttc atc cat ttc 336
 Glu Ile Ser Phe Gly Gly Cys Leu Ser His Met Phe Phe Ile His Phe
 100 105 110

ttc act gct atg gag agc att gtg ttg gtg gcc atg gcc ttt gac cgc 384
 Phe Thr Ala Met Glu Ser Ile Val Leu Val Ala Met Ala Phe Asp Arg
 115 120 125

tac att gcc att tgc aaa cct ctt cgg tac acc atg atc ctc acc agc 432
 Tyr Ile Ala Ile Cys Lys Pro Leu Arg Tyr Thr Met Ile Leu Thr Ser
 130 135 140

aaa atc atc agc ctc att gca ggc att gct gtc ctg agg agc ctg tac 480
 Lys Ile Ile Ser Leu Ile Ala Gly Ile Ala Val Leu Arg Ser Leu Tyr
 145 150 155 160

atg gtt gtt cca ctg gtg ttt ctc ctt ctg agg ctg ccc ttc tgt ggg 528
 Met Val Val Pro Leu Val Phe Leu Leu Leu Arg Leu Pro Phe Cys Gly
 165 170 175

cat cgt atc atc cct cat act tat tgt gag cac atg ggc att gcc cgt 576
 His Arg Ile Ile Pro His Thr Tyr Cys Glu His Met Gly Ile Ala Arg
 180 185 190

ctg gcc tgt gcc agc atc aaa gtc aac att agg ttt ggc ctt ggc aac 624
 Leu Ala Cys Ala Ser Ile Lys Val Asn Ile Arg Phe Gly Leu Gly Asn
 195 200 205

ata tct ctc ttg tta ctg gat gtt atc ctt att att ctc tcc tat gtc 672
 Ile Ser Leu Leu Leu Leu Asp Val Ile Leu Ile Ile Leu Ser Tyr Val
 210 215 220

agg atc ctg tat gct gtc ttc tgc ctg ccc tcc tgg gaa gct cga ctc 720
 Arg Ile Leu Tyr Ala Val Phe Cys Leu Pro Ser Trp Glu Ala Arg Leu

225	230	235	240	
aaa gct ctc aac acc tgt ggt tct cat att ggt gtt atc tta gcc ttt				768
Lys Ala Leu Asn Thr Cys Gly Ser His Ile Gly Val Ile Leu Ala Phe				
	245	250	255	
ttt aca cca gca ttt ttt tca ttc ttg aca cat cgt ttt ggc cat aat				816
Phe Thr Pro Ala Phe Phe Ser Phe Leu Thr His Arg Phe Gly His Asn				
	260	265	270	
atc cca cag tat ata cat att ata tta gcc aac ctg tat gtg gtt gtc				864
Ile Pro Gln Tyr Ile His Ile Ile Leu Ala Asn Leu Tyr Val Val Val				
	275	280	285	
cca cca gcc ctc aat cct gta atc tat gga gtc agg aca aag cag att				912
Pro Pro Ala Leu Asn Pro Val Ile Tyr Gly Val Arg Thr Lys Gln Ile				
	290	295	300	
cga gag aga gtg ctg agg att ttt ctc aag acc aat cac taa				954
Arg Glu Arg Val Leu Arg Ile Phe Leu Lys Thr Asn His				
305	310	315		

<210> 396
 <211> 317
 <212> PRT
 <213> Homo Sapiens

<400> 396

Met Ala Gly Arg Met Ser Thr Ser Asn His Thr Gln Phe His Pro Ser				
1	5	10	15	
Ser Phe Leu Leu Leu Gly Ile Pro Gly Leu Glu Asp Val His Ile Trp				
	20	25	30	
Ile Gly Val Pro Phe Phe Phe Val Tyr Leu Val Ala Leu Leu Gly Asn				
	35	40	45	
Thr Ala Leu Leu Phe Val Ile Gln Thr Glu Gln Ser Leu His Glu Pro				
	50	55	60	
Met Tyr Tyr Phe Leu Ala Met Leu Asp Ser Ile Asp Leu Gly Leu Ser				
65	70	75	80	
Thr Ala Thr Ile Pro Lys Met Leu Gly Ile Phe Trp Phe Asn Thr Lys				
	85	90	95	
Glu Ile Ser Phe Gly Gly Cys Leu Ser His Met Phe Phe Ile His Phe				
	100	105	110	
Phe Thr Ala Met Glu Ser Ile Val Leu Val Ala Met Ala Phe Asp Arg				
	115	120	125	

Tyr Ile Ala Ile Cys Lys Pro Leu Arg Tyr Thr Met Ile Leu Thr Ser
 130 135 140

Lys Ile Ile Ser Leu Ile Ala Gly Ile Ala Val Leu Arg Ser Leu Tyr
 145 150 155 160

Met Val Val Pro Leu Val Phe Leu Leu Leu Arg Leu Pro Phe Cys Gly
 165 170 175

His Arg Ile Ile Pro His Thr Tyr Cys Glu His Met Gly Ile Ala Arg
 180 185 190

Leu Ala Cys Ala Ser Ile Lys Val Asn Ile Arg Phe Gly Leu Gly Asn
 195 200 205

Ile Ser Leu Leu Leu Leu Asp Val Ile Leu Ile Ile Leu Ser Tyr Val
 210 215 220

Arg Ile Leu Tyr Ala Val Phe Cys Leu Pro Ser Trp Glu Ala Arg Leu
 225 230 235 240

Lys Ala Leu Asn Thr Cys Gly Ser His Ile Gly Val Ile Leu Ala Phe
 245 250 255

Phe Thr Pro Ala Phe Phe Ser Phe Leu Thr His Arg Phe Gly His Asn
 260 265 270

Ile Pro Gln Tyr Ile His Ile Ile Leu Ala Asn Leu Tyr Val Val Val
 275 280 285

Pro Pro Ala Leu Asn Pro Val Ile Tyr Gly Val Arg Thr Lys Gln Ile
 290 295 300

Arg Glu Arg Val Leu Arg Ile Phe Leu Lys Thr Asn His
 305 310 315

<210> 397
 <211> 975
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1)..(972)
 <223>

<400> 397

atg cct cta ttt aat tca tta tgc tgg ttt cca aca att cat gtg act	48
Met Pro Leu Phe Asn Ser Leu Cys Trp Phe Pro Thr Ile His Val Thr	
1 5 10 15	
cct cca tct ttt att ctt aat gga ata cct ggt ctg gaa aga gta cat	96
Pro Pro Ser Phe Ile Leu Asn Gly Ile Pro Gly Leu Glu Arg Val His	
20 25 30	
gta tgg atc tcc ctc cca ctc tgc aca atg tac atc atc ttc ctt gtg	144
Val Trp Ile Ser Leu Pro Leu Cys Thr Met Tyr Ile Ile Phe Leu Val	
35 40 45	
ggg aat ctt ggt ctt gtg tac ctc att tat tat gag gag tcc tta cat	192
Gly Asn Leu Gly Leu Val Tyr Leu Ile Tyr Tyr Glu Glu Ser Leu His	
50 55 60	
cat ccg atg tat ttt ttt ttt ggc cat gct ctc tcc ctc att gac ctc	240
His Pro Met Tyr Phe Phe Phe Gly His Ala Leu Ser Leu Ile Asp Leu	
65 70 75 80	
ctt acc tgc acc acc act cta ccc aat gca ctc tgc atc ttc tgg ttc	288
Leu Thr Cys Thr Thr Thr Leu Pro Asn Ala Leu Cys Ile Phe Trp Phe	
85 90 95	
agt ctc aaa gaa att aac ttc aat gct tgc ttg gcc cag atg ttc ttt	336
Ser Leu Lys Glu Ile Asn Phe Asn Ala Cys Leu Ala Gln Met Phe Phe	
100 105 110	
gtt cat ggg ttc aca ggt gtg gag tct ggg gtg ctc atg ctc atg gct	384
Val His Gly Phe Thr Gly Val Glu Ser Gly Val Leu Met Leu Met Ala	
115 120 125	
cta gac cgc tat gta gcc att tgc tac cct ttg cgt tat gct acc aca	432
Leu Asp Arg Tyr Val Ala Ile Cys Tyr Pro Leu Arg Tyr Ala Thr Thr	
130 135 140	
ctc acc aac cct atc att gcc aag gct gag ctt gcc acc ttc ctg agg	480
Leu Thr Asn Pro Ile Ile Ala Lys Ala Glu Leu Ala Thr Phe Leu Arg	
145 150 155 160	
ggg gta ttg ctg atg att cct ttc cca ttc ttg gtt aag cgt ttg cct	528
Gly Val Leu Leu Met Ile Pro Phe Pro Phe Leu Val Lys Arg Leu Pro	
165 170 175	
ttc tgc caa agc aat att atc tcc cat acg tac tgc gac cac atg tct	576
Phe Cys Gln Ser Asn Ile Ile Ser His Thr Tyr Cys Asp His Met Ser	
180 185 190	
gta gta aag cta tct tgt gcc agc atc aag gtc aat gta atc tat ggt	624
Val Val Lys Leu Ser Cys Ala Ser Ile Lys Val Asn Val Ile Tyr Gly	
195 200 205	
cta atg gtt gct ctc ctg att gga gtg ttt gac att tgt tgt ata tct	672
Leu Met Val Ala Leu Leu Ile Gly Val Phe Asp Ile Cys Cys Ile Ser	
210 215 220	
ttg tct tac act ttg atc ctc aag gca gcg atc agc ctc tct tca tca	720
Leu Ser Tyr Thr Leu Ile Leu Lys Ala Ala Ile Ser Leu Ser Ser Ser	
225 230 235 240	
gat gct cgg cag aag gct ttc agc acc tgc act gcc cat ata tct gcc	768

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<210> 398
<211> 324
<212> PRT
<213> Homo Sapiens
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Met Pro Leu Phe Asn Ser Leu Cys Trp Phe Pro Thr Ile His Val Thr
1 5 10 15

Pro Pro Ser Phe Ile Leu Asn Gly Ile Pro Gly Leu Glu Arg Val His
20 25 30

Val Trp Ile Ser Leu Pro Leu Cys Thr Met Tyr Ile Ile Phe Leu Val
35 40 45

Gly Asn Leu Gly Leu Val Tyr Leu Ile Tyr Tyr Glu Glu Ser Leu His
50 55 60

His Pro Met Tyr Phe Phe Phe Gly His Ala Leu Ser Leu Ile Asp Leu
65 70 75 80

Leu Thr Cys Thr Thr Thr Leu Pro Asn Ala Leu Cys Ile Phe Trp Phe
85 90 95

Ser Leu Lys Glu Ile Asn Phe Asn Ala Cys Leu Ala Gln Met Phe Phe
100 105 110

Val His Gly Phe Thr Gly Val Glu Ser Gly Val Leu Met Leu Met Ala
115 120 125

Leu Asp Arg Tyr Val Ala Ile Cys Tyr Pro Leu Arg Tyr Ala Thr Thr
 130 135 140

Leu Thr Asn Pro Ile Ile Ala Lys Ala Glu Leu Ala Thr Phe Leu Arg
 145 150 155 160

Gly Val Leu Leu Met Ile Pro Phe Pro Phe Leu Val Lys Arg Leu Pro
 165 170 175

Phe Cys Gln Ser Asn Ile Ile Ser His Thr Tyr Cys Asp His Met Ser
 180 185 190

Val Val Lys Leu Ser Cys Ala Ser Ile Lys Val Asn Val Ile Tyr Gly
 195 200 205

Leu Met Val Ala Leu Leu Ile Gly Val Phe Asp Ile Cys Cys Ile Ser
 210 215 220

Leu Ser Tyr Thr Leu Ile Leu Lys Ala Ala Ile Ser Leu Ser Ser Ser
 225 230 235 240

Asp Ala Arg Gln Lys Ala Phe Ser Thr Cys Thr Ala His Ile Ser Ala
 245 250 255

Ile Ile Ile Thr Tyr Val Pro Ala Phe Phe Thr Phe Phe Ala His Arg
 260 265 270

Phe Gly Gly His Thr Ile Pro Pro Ser Leu His Ile Ile Val Ala Asn
 275 280 285

Leu Tyr Leu Leu Leu Pro Pro Thr Leu Asn Pro Ile Val Tyr Gly Val
 290 295 300

Lys Thr Lys Gln Ile Arg Lys Ser Val Ile Lys Phe Phe Gln Gly Asp
 305 310 315 320

Lys Gly Ala Gly

<210> 399
 <211> 972
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS

<222> (1) .. (969)

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<400> 399

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Met	Ser	His	Thr	Asn	Val	Thr	Ile	Phe	His	Pro	Ala	Val	Phe	Val	Leu	
1				5				10					15			

cct	ggc	atc	cct	ggg	ttg	gag	gct	tat	cac	att	tgg	ctg	tca	ata	cct	96
Pro	Gly	Ile	Pro	Gly	Leu	Glu	Ala	Tyr	His	Ile	Trp	Leu	Ser	Ile	Pro	
			20					25					30			

ctt	tgc	ctc	att	tac	atc	act	gca	gtc	ctg	gga	aac	agc	atc	ctg	ata	144
Leu	Cys	Leu	Ile	Tyr	Ile	Thr	Ala	Val	Leu	Gly	Asn	Ser	Ile	Leu	Ile	
		35					40					45				

gtg	gtt	att	gtc	atg	gaa	cgt	aac	ctt	cat	gtg	ccc	atg	tat	ttc	ttc	192
Val	Val	Ile	Val	Met	Glu	Arg	Asn	Leu	His	Val	Pro	Met	Tyr	Phe	Phe	
	50					55					60					

ctc	tca	atg	ctg	gcc	gtc	atg	gac	atc	ctg	ctg	tct	acc	acc	act	gtg	240
Leu	Ser	Met	Leu	Ala	Val	Met	Asp	Ile	Leu	Leu	Ser	Thr	Thr	Thr	Val	
65					70					75					80	

ccc	aag	gcc	cta	gcc	atc	ttt	tgg	ctt	caa	gca	cat	aac	att	gct	ttt	288
Pro	Lys	Ala	Leu	Ala	Ile	Phe	Trp	Leu	Gln	Ala	His	Asn	Ile	Ala	Phe	
				85					90					95		

gat	gcc	tgt	gtc	acc	caa	ggc	ttc	ttt	gtc	cat	atg	atg	ttt	gtg	ggg	336
Asp	Ala	Cys	Val	Thr	Gln	Gly	Phe	Phe	Val	His	Met	Met	Phe	Val	Gly	
			100					105						110		

gag	tca	gct	atc	ctg	tta	gcc	atg	gcc	ttt	gat	cgc	ttt	gtg	gcc	att	384
Glu	Ser	Ala	Ile	Leu	Leu	Ala	Met	Ala	Phe	Asp	Arg	Phe	Val	Ala	Ile	
		115					120					125				

tgt	gcc	cca	ctg	aga	tat	aca	aca	gtg	cta	aca	tgg	cct	gtt	gtg	ggg	432
Cys	Ala	Pro	Leu	Arg	Tyr	Thr	Thr	Val	Leu	Thr	Trp	Pro	Val	Val	Gly	
	130					135					140					

agg	att	gct	ctg	gcc	gtc	atc	acc	cga	agc	ttc	tgc	atc	atc	ttc	cca	480
Arg	Ile	Ala	Leu	Ala	Val	Ile	Thr	Arg	Ser	Phe	Cys	Ile	Ile	Phe	Pro	
145					150					155					160	

gtc	ata	ttc	ttg	ctg	aag	cgg	ctg	ccc	ttc	tgc	cta	acc	aac	att	gtt	528
Val	Ile	Phe	Leu	Leu	Lys	Arg	Leu	Pro	Phe	Cys	Leu	Thr	Asn	Ile	Val	
				165					170					175		

cct	cac	tcc	tac	tgt	gag	cat	att	gga	gtg	gct	cgt	tta	gcc	tgt	gct	576
Pro	His	Ser	Tyr	Cys	Glu	His	Ile	Gly	Val	Ala	Arg	Leu	Ala	Cys	Ala	
			180					185					190			

gac	atc	act	gtt	aac	att	tgg	tat	ggc	ttc	tca	gtg	ccc	att	gtc	atg	624
Asp	Ile	Thr	Val	Asn	Ile	Trp	Tyr	Gly	Phe	Ser	Val	Pro	Ile	Val	Met	
		195				200						205				

gtc	atc	ttg	gat	gtt	atc	ctc	atc	gct	gtg	tct	tac	tca	ctg	atc	ctc	672
Val	Ile	Leu	Asp	Val	Ile	Leu	Ile	Ala	Val	Ser	Tyr	Ser	Leu	Ile	Leu	
	210					215					220					

cga gca gtg ttt cgt ttg ccc tcc cag gat gct cgg cac aag gcc ctc 720
 Arg Ala Val Phe Arg Leu Pro Ser Gln Asp Ala Arg His Lys Ala Leu
 225 230 235 240
 agc act tgt ggc tcc cac ctc tgt gtc atc ctt atg ttt tat gtt cca 768
 Ser Thr Cys Gly Ser His Leu Cys Val Ile Leu Met Phe Tyr Val Pro
 245 250 255
 tcc ttc ttt acc tta ttg acc cat cat ttt ggg cgt aat att cct caa 816
 Ser Phe Phe Thr Leu Leu Thr His His Phe Gly Arg Asn Ile Pro Gln
 260 265 270
 cat gtc cat atc ttg ctg gcc aat ctt tat gtg gca gtg cca cca atg 864
 His Val His Ile Leu Leu Ala Asn Leu Tyr Val Ala Val Pro Pro Met
 275 280 285
 ctg aac ccc att gtc tat ggt gtg aag act aag cag ata cgt gag ggt 912
 Leu Asn Pro Ile Val Tyr Gly Val Lys Thr Lys Gln Ile Arg Glu Gly
 290 295 300
 gta gcc cac cgg ttc ttt gac atc aag act tgg tgc tgt acc tcc cct 960
 Val Ala His Arg Phe Phe Asp Ile Lys Thr Trp Cys Cys Thr Ser Pro
 305 310 315 320
 ctg ggc tca tga
 Leu Gly Ser 972

<210> 400
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 <213> Homo Sapiens

<400> 400

Met Ser His Thr Asn Val Thr Ile Phe His Pro Ala Val Phe Val Leu
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Pro Gly Ile Pro Gly Leu Glu Ala Tyr His Ile Trp Leu Ser Ile Pro
20 25 30

Leu Cys Leu Ile Tyr Ile Thr Ala Val Leu Gly Asn Ser Ile Leu Ile
35 40 45

Val Val Ile Val Met Glu Arg Asn Leu His Val Pro Met Tyr Phe Phe
50 55 60

Leu Ser Met Leu Ala Val Met Asp Ile Leu Leu Ser Thr Thr Thr Val
65 70 75 80

Pro Lys Ala Leu Ala Ile Phe Trp Leu Gln Ala His Asn Ile Ala Phe
85 90 95

Asp Ala Cys Val Thr Gln Gly Phe Phe Val His Met Met Phe Val Gly

100 105 110
 Glu Ser Ala Ile Leu Leu Ala Met Ala Phe Asp Arg Phe Val Ala Ile
 115 120 125
 Cys Ala Pro Leu Arg Tyr Thr Thr Val Leu Thr Trp Pro Val Val Gly
 130 135 140
 Arg Ile Ala Leu Ala Val Ile Thr Arg Ser Phe Cys Ile Ile Phe Pro
 145 150 155 160
 Val Ile Phe Leu Leu Lys Arg Leu Pro Phe Cys Leu Thr Asn Ile Val
 165 170 175
 Pro His Ser Tyr Cys Glu His Ile Gly Val Ala Arg Leu Ala Cys Ala
 180 185 190
 Asp Ile Thr Val Asn Ile Trp Tyr Gly Phe Ser Val Pro Ile Val Met
 195 200 205
 Val Ile Leu Asp Val Ile Leu Ile Ala Val Ser Tyr Ser Leu Ile Leu
 210 215 220
 Arg Ala Val Phe Arg Leu Pro Ser Gln Asp Ala Arg His Lys Ala Leu
 225 230 235 240
 Ser Thr Cys Gly Ser His Leu Cys Val Ile Leu Met Phe Tyr Val Pro
 245 250 255
 Ser Phe Phe Thr Leu Leu Thr His His Phe Gly Arg Asn Ile Pro Gln
 260 265 270
 His Val His Ile Leu Leu Ala Asn Leu Tyr Val Ala Val Pro Pro Met
 275 280 285
 Leu Asn Pro Ile Val Tyr Gly Val Lys Thr Lys Gln Ile Arg Glu Gly
 290 295 300
 Val Ala His Arg Phe Phe Asp Ile Lys Thr Trp Cys Cys Thr Ser Pro
 305 310 315 320
 Leu Gly Ser

<210> 401
 <211> 963

<212> DNA
<213> Homo Sapiens

<220>
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<400> 401
atg gca gaa act cta caa ctc aat tcc acc ttc cta cac cca aac ttc      48
Met Ala Glu Thr Leu Gln Leu Asn Ser Thr Phe Leu His Pro Asn Phe
1          5          10          15

ttc ata ctg act ggc ttt cca ggg cta gga agt gcc cag act tgg ctg      96
Phe Ile Leu Thr Gly Phe Pro Gly Leu Gly Ser Ala Gln Thr Trp Leu
          20          25          30

aca ctg gtc ttt ggg ccc att tat ctg ctg gcc ctg ctg ggc aat gga      144
Thr Leu Val Phe Gly Pro Ile Tyr Leu Leu Ala Leu Leu Gly Asn Gly
          35          40          45

gca ctg ccg gca gtg gtg tgg ata gac tcc aca ctg cac cag ccc atg      192
Ala Leu Pro Ala Val Val Trp Ile Asp Ser Thr Leu His Gln Pro Met
          50          55          60

ttt cta ctg ttg gcc atc ctg gca gcc aca gac ctg ggc tta gcc aca      240
Phe Leu Leu Leu Ala Ile Leu Ala Ala Thr Asp Leu Gly Leu Ala Thr
          65          70          75          80

tct ata gcc cca ggg ttg ctg gct gtg ctg tgg ctt ggg ccc cga tct      288
Ser Ile Ala Pro Gly Leu Leu Ala Val Leu Trp Leu Gly Pro Arg Ser
          85          90          95

gtg cca tat gct gtg tgc ctg gtc cag atg ttc ttt gta cat gca ctg      336
Val Pro Tyr Ala Val Cys Leu Val Gln Met Phe Phe Val His Ala Leu
          100          105          110

act gcc atg gaa tca ggt gtg ctt ttg gcc atg gcc tgt gat cgt gct      384
Thr Ala Met Glu Ser Gly Val Leu Leu Ala Met Ala Cys Asp Arg Ala
          115          120          125

gcg gca ata ggg cgt cca ctg cac tac cct gtc ctg gtc acc aaa gcc      432
Ala Ala Ile Gly Arg Pro Leu His Tyr Pro Val Leu Val Thr Lys Ala
          130          135          140

tgt gtg ggt tat gca gcc ttg gcc ctg gca ctg aaa gct gtg gct att      480
Cys Val Gly Tyr Ala Ala Leu Ala Leu Ala Leu Lys Ala Val Ala Ile
          145          150          155          160

gtt gta cct ttc cca ctg ctg gtg gca aag ttt gag cac ttc caa gcc      528
Val Val Pro Phe Pro Leu Leu Val Ala Lys Phe Glu His Phe Gln Ala
          165          170          175

aag acc ata ggc cat acc tat tgt gca cac atg gca gtg gta gaa ctg      576
Lys Thr Ile Gly His Thr Tyr Cys Ala His Met Ala Val Val Glu Leu
          180          185          190

gtg gtg ggt aac aca cag gcc acc aac tta tat ggt ctg gca ctt tca      624
Val Val Gly Asn Thr Gln Ala Thr Asn Leu Tyr Gly Leu Ala Leu Ser
          195          200          205

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ctg gcc atc tca ggt atg gat att ctg ggt atc act ggc tcc tat gga 672
 Leu Ala Ile Ser Gly Met Asp Ile Leu Gly Ile Thr Gly Ser Tyr Gly
 210 215 220
 ctc att gcc cat gct gtg ctg cag cta cct acc cgg gag gcc cat gcc 720
 Leu Ile Ala His Ala Val Leu Gln Leu Pro Thr Arg Glu Ala His Ala
 225 230 235 240
 aag gcc ttt ggt aca tgt agt tct cac atc tgt gtc att ctg gcc ttc 768
 Lys Ala Phe Gly Thr Cys Ser Ser His Ile Cys Val Ile Leu Ala Phe
 245 250 255
 tac ata cct ggt ctc ttc tcc tac ctc aca cac cgc ttt ggt cat cac 816
 Tyr Ile Pro Gly Leu Phe Ser Tyr Leu Thr His Arg Phe Gly His His
 260 265 270
 act gtc cca aag cct gtg cac atc ctt ctc tcc aac atc tac ttg ctg 864
 Thr Val Pro Lys Pro Val His Ile Leu Leu Ser Asn Ile Tyr Leu Leu
 275 280 285
 ctg cca cct gcc ctc aac ccc ctc atc tat ggg gcc cgc acc aag cag 912
 Leu Pro Pro Ala Leu Asn Pro Leu Ile Tyr Gly Ala Arg Thr Lys Gln
 290 295 300
 atc aga gac cga ctc ctg gaa acc ttc aca ttc aga aaa agc ccg ttg 960
 Ile Arg Asp Arg Leu Leu Glu Thr Phe Thr Phe Arg Lys Ser Pro Leu
 305 310 315 320
 taa 963

<210> 402
 <211> 320
 <212> PRT
 <213> Homo Sapiens

<400> 402

Met Ala Glu Thr Leu Gln Leu Asn Ser Thr Phe Leu His Pro Asn Phe
1 5 10 15

Phe Ile Leu Thr Gly Phe Pro Gly Leu Gly Ser Ala Gln Thr Trp Leu
20 25 30

Thr Leu Val Phe Gly Pro Ile Tyr Leu Leu Ala Leu Leu Gly Asn Gly
35 40 45

Ala Leu Pro Ala Val Val Trp Ile Asp Ser Thr Leu His Gln Pro Met
50 55 60

Phe Leu Leu Leu Ala Ile Leu Ala Ala Thr Asp Leu Gly Leu Ala Thr
65 70 75 80

Ser Ile Ala Pro Gly Leu Leu Ala Val Leu Trp Leu Gly Pro Arg Ser
85 90 95

Val Pro Tyr Ala Val Cys Leu Val Gln Met Phe Phe Val His Ala Leu
 100 105 110
 Thr Ala Met Glu Ser Gly Val Leu Leu Ala Met Ala Cys Asp Arg Ala
 115 120 125
 Ala Ala Ile Gly Arg Pro Leu His Tyr Pro Val Leu Val Thr Lys Ala
 130 135 140
 Cys Val Gly Tyr Ala Ala Leu Ala Leu Ala Leu Lys Ala Val Ala Ile
 145 150 155 160
 Val Val Pro Phe Pro Leu Leu Val Ala Lys Phe Glu His Phe Gln Ala
 165 170 175
 Lys Thr Ile Gly His Thr Tyr Cys Ala His Met Ala Val Val Glu Leu
 180 185 190
 Val Val Gly Asn Thr Gln Ala Thr Asn Leu Tyr Gly Leu Ala Leu Ser
 195 200 205
 Leu Ala Ile Ser Gly Met Asp Ile Leu Gly Ile Thr Gly Ser Tyr Gly
 210 215 220
 Leu Ile Ala His Ala Val Leu Gln Leu Pro Thr Arg Glu Ala His Ala
 225 230 235 240
 Lys Ala Phe Gly Thr Cys Ser Ser His Ile Cys Val Ile Leu Ala Phe
 245 250 255
 Tyr Ile Pro Gly Leu Phe Ser Tyr Leu Thr His Arg Phe Gly His His
 260 265 270
 Thr Val Pro Lys Pro Val His Ile Leu Leu Ser Asn Ile Tyr Leu Leu
 275 280 285
 Leu Pro Pro Ala Leu Asn Pro Leu Ile Tyr Gly Ala Arg Thr Lys Gln
 290 295 300
 Ile Arg Asp Arg Leu Leu Glu Thr Phe Thr Phe Arg Lys Ser Pro Leu
 305 310 315 320
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<213> Homo Sapiens

<220>

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<222> (1)..(957)

<223>

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Met Asp Thr Ser Thr Ser Val Thr Tyr Asp Ser Ser Leu Gln Ile Ser	
1 5 10 15	

cag ttc atc ctg atg gga tta cca ggc att cat gag tgg cag cac tgg	96
Gln Phe Ile Leu Met Gly Leu Pro Gly Ile His Glu Trp Gln His Trp	
20 25 30	

ctc tcc ctg ccc ctg act ctg ctc tac ctc tta gct ctt ggt gcc aac	144
Leu Ser Leu Pro Leu Thr Leu Leu Tyr Leu Leu Ala Leu Gly Ala Asn	
35 40 45	

ctc ctc atc ata atc acc att caa cat gag acc gtg cta cat gaa ccc	192
Leu Leu Ile Ile Ile Thr Ile Gln His Glu Thr Val Leu His Glu Pro	
50 55 60	

atg tac cat ttg ctg ggc ata tta gca gtg gtg gac att ggc ctg gcc	240
Met Tyr His Leu Leu Gly Ile Leu Ala Val Val Asp Ile Gly Leu Ala	
65 70 75 80	

acc acc atc atg ccc aag atc ctg gcc atc ttc tgg ttt gat gcc aag	288
Thr Thr Ile Met Pro Lys Ile Leu Ala Ile Phe Trp Phe Asp Ala Lys	
85 90 95	

gcc att agc ctc ccc atg tgt ttt gct cag atc tat gcc atc cac tgc	336
Ala Ile Ser Leu Pro Met Cys Phe Ala Gln Ile Tyr Ala Ile His Cys	
100 105 110	

ttc ttc tgc ata gag tca ggc atc ttt ctc tgc atg gca gta gac aga	384
Phe Phe Cys Ile Glu Ser Gly Ile Phe Leu Cys Met Ala Val Asp Arg	
115 120 125	

tac ata gcc atc tgt cgc cct ctt cag tac ccc tcc ata gtc act aaa	432
Tyr Ile Ala Ile Cys Arg Pro Leu Gln Tyr Pro Ser Ile Val Thr Lys	
130 135 140	

gct ttt gtc ttc aaa gcc aca ggg ttc atc atg ctc agg aat ggc ctg	480
Ala Phe Val Phe Lys Ala Thr Gly Phe Ile Met Leu Arg Asn Gly Leu	
145 150 155 160	

ttg acc atc cca gtg cct ata ctg gct gcc cag aga cac tac tgt tcc	528
Leu Thr Ile Pro Val Pro Ile Leu Ala Ala Gln Arg His Tyr Cys Ser	
165 170 175	

agg aat gaa atc gag cac tgc ctc tgc tct aac ttg ggg gtt atc agc	576
Arg Asn Glu Ile Glu His Cys Leu Cys Ser Asn Leu Gly Val Ile Ser	
180 185 190	

ctg gct tgt gat gac atc act gtg aac aaa ttt tac caa ctg atg cta	624
Leu Ala Cys Asp Asp Ile Thr Val Asn Lys Phe Tyr Gln Leu Met Leu	
195 200 205	

gca tgg gtc ttg gtt ggg agt gat atg gct ctg gta ttt tct tcc tat 672
 Ala Trp Val Leu Val Gly Ser Asp Met Ala Leu Val Phe Ser Ser Tyr
 210 215 220
 gct gta atc ctt cac tct gtg ctg agg ctg aac tca gca gaa gca atg 720
 Ala Val Ile Leu His Ser Val Leu Arg Leu Asn Ser Ala Glu Ala Met
 225 230 235 240
 tcc aag gct ctg agc act tgt agc tcc cac ctc atc ctc atc ctc ttc 768
 Ser Lys Ala Leu Ser Thr Cys Ser Ser His Leu Ile Leu Ile Leu Phe
 245 250 255
 cac aca ggt atc att gtg ctg tct gtc aca cac ctt gca gag aaa aag 816
 His Thr Gly Ile Ile Val Leu Ser Val Thr His Leu Ala Glu Lys Lys
 260 265 270
 att ccc ctt att cct gtg ttc ctt aat gtg ctg cac aat gtc atc ccc 864
 Ile Pro Leu Ile Pro Val Phe Leu Asn Val Leu His Asn Val Ile Pro
 275 280 285
 cct gca ctc aac ccc ctg gcc tgt gca ctc agg atg cac aaa ctc aga 912
 Pro Ala Leu Asn Pro Leu Ala Cys Ala Leu Arg Met His Lys Leu Arg
 290 295 300
 ctg ggc ttt cag aga ctg ctt gga ctg ggt cag gac gtg tcc aag taa 960
 Leu Gly Phe Gln Arg Leu Leu Gly Leu Gly Gln Asp Val Ser Lys
 305 310 315

<210> 404
 <211> 319
 <212> PRT
 <213> Homo Sapiens

<400> 404

Met Asp Thr Ser Thr Ser Val Thr Tyr Asp Ser Ser Leu Gln Ile Ser
 1 5 10 15

Gln Phe Ile Leu Met Gly Leu Pro Gly Ile His Glu Trp Gln His Trp
 20 25 30

Leu Ser Leu Pro Leu Thr Leu Leu Tyr Leu Leu Ala Leu Gly Ala Asn
 35 40 45

Leu Leu Ile Ile Ile Thr Ile Gln His Glu Thr Val Leu His Glu Pro
 50 55 60

Met Tyr His Leu Leu Gly Ile Leu Ala Val Val Asp Ile Gly Leu Ala
 65 70 75 80

Thr Thr Ile Met Pro Lys Ile Leu Ala Ile Phe Trp Phe Asp Ala Lys
 85 90 95

Ala Ile Ser Leu Pro Met Cys Phe Ala Gln Ile Tyr Ala Ile His Cys

100	105	110
Phe Phe Cys Ile Glu Ser Gly Ile Phe Leu Cys Met Ala Val Asp Arg		
115	120	125
Tyr Ile Ala Ile Cys Arg Pro Leu Gln Tyr Pro Ser Ile Val Thr Lys		
130	135	140
Ala Phe Val Phe Lys Ala Thr Gly Phe Ile Met Leu Arg Asn Gly Leu		
145	150	155 160
Leu Thr Ile Pro Val Pro Ile Leu Ala Ala Gln Arg His Tyr Cys Ser		
	165	170 175
Arg Asn Glu Ile Glu His Cys Leu Cys Ser Asn Leu Gly Val Ile Ser		
	180	185 190
Leu Ala Cys Asp Asp Ile Thr Val Asn Lys Phe Tyr Gln Leu Met Leu		
	195	200 205
Ala Trp Val Leu Val Gly Ser Asp Met Ala Leu Val Phe Ser Ser Tyr		
	210	215 220
Ala Val Ile Leu His Ser Val Leu Arg Leu Asn Ser Ala Glu Ala Met		
	225	230 235 240
Ser Lys Ala Leu Ser Thr Cys Ser Ser His Leu Ile Leu Ile Leu Phe		
	245	250 255
His Thr Gly Ile Ile Val Leu Ser Val Thr His Leu Ala Glu Lys Lys		
	260	265 270
Ile Pro Leu Ile Pro Val Phe Leu Asn Val Leu His Asn Val Ile Pro		
	275	280 285
Pro Ala Leu Asn Pro Leu Ala Cys Ala Leu Arg Met His Lys Leu Arg		
	290	295 300
Leu Gly Phe Gln Arg Leu Leu Gly Leu Gly Gln Asp Val Ser Lys		
	305	310 315

<210> 405
 <211> 963
 <212> DNA
 <213> Homo Sapiens

<220>

<221> CDS

<222> (1) .. (963)

<223>

<400> 405

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1 5 10 15	
ttc ata ctg act ggc ttt cca ggg cta gga agt gcc cag act tgg ctg	96
Phe Ile Leu Thr Gly Phe Pro Gly Leu Gly Ser Ala Gln Thr Trp Leu	
20 25 30	
aca ctg gtc ttt ggg ccc att tat ctg ctg gcc ctg ctg ggc aat gga	144
Thr Leu Val Phe Gly Pro Ile Tyr Leu Leu Ala Leu Gly Asn Gly	
35 40 45	
gca ctg ccg gca gtg gtg tgg ata gac tcc aca ctg cac cag ccc atg	192
Ala Leu Pro Ala Val Val Trp Ile Asp Ser Thr Leu His Gln Pro Met	
50 55 60	
ttt cta ctg ttg gcc atc ctg gca gcc aca gac ctg ggc tta gcc aca	240
Phe Leu Leu Leu Ala Ile Leu Ala Ala Thr Asp Leu Gly Leu Ala Thr	
65 70 75 80	
tct ata gcc cca ggg ttg ctg gct gtg ctg tgg ctt ggg ccc cga tct	288
Ser Ile Ala Pro Gly Leu Leu Ala Val Leu Trp Leu Gly Pro Arg Ser	
85 90 95	
gtg cca tat gct gtg tgc ctg gtc cag atg ttc ttt gta cat gca ctg	336
Val Pro Tyr Ala Val Cys Leu Val Gln Met Phe Phe Val His Ala Leu	
100 105 110	
act gcc atg gaa tca ggt gtg ctt ttg gcc atg gcc tgt gat cgt gct	384
Thr Ala Met Glu Ser Gly Val Leu Leu Ala Met Ala Cys Asp Arg Ala	
115 120 125	
gcg gca ata ggg cgt cca ctg cac tac cct gtc ctg gtc acc aaa gcc	432
Ala Ala Ile Gly Arg Pro Leu His Tyr Pro Val Leu Val Thr Lys Ala	
130 135 140	
tgt gtg ggt tat gca gcc ttg gcc ctg gca ctg aaa gct gtg gct att	480
Cys Val Gly Tyr Ala Ala Leu Ala Leu Ala Leu Lys Ala Val Ala Ile	
145 150 155 160	
gtt gta cct ttc cca ctg ctg gtg gca aag ttt gag cac ttc caa gcc	528
Val Val Pro Phe Pro Leu Leu Val Ala Lys Phe Glu His Phe Gln Ala	
165 170 175	
aag acc ata ggc cat acc tat tgt gca cac atg gca gtg gta gaa ctg	576
Lys Thr Ile Gly His Thr Tyr Cys Ala His Met Ala Val Val Glu Leu	
180 185 190	
gtg gtg ggt aac aca cag gcc acc aac tta tat ggt ctg gca ctt tca	624
Val Val Gly Asn Thr Gln Ala Thr Asn Leu Tyr Gly Leu Ala Leu Ser	
195 200 205	
ctg gcc atc tca ggt atg gat att ctg ggt atc act ggc tcc tat gga	672
Leu Ala Ile Ser Gly Met Asp Ile Leu Gly Ile Thr Gly Ser Tyr Gly	
210 215 220	

ctc att gcc cat gct gtg ctg cag cta cct acc cgg gag gcc cat gcc 720
 Leu Ile Ala His Ala Val Leu Gln Leu Pro Thr Arg Glu Ala His Ala
 225 230 235 240

aag gcc ttt ggt aca tgt agt tct cac atc tgt gtc att ctg gcc ttc 768
 Lys Ala Phe Gly Thr Cys Ser Ser His Ile Cys Val Ile Leu Ala Phe
 245 250 255

tac ata cct ggt ctc ttc tcc tac ctc gca cac cgc ttt ggt cat cac 816
 Tyr Ile Pro Gly Leu Phe Ser Tyr Leu Ala His Arg Phe Gly His His
 260 265 270

act gtc cca aag cct gtg cac atc ctt ctc tcc aac atc tac ttg ctg 864
 Thr Val Pro Lys Pro Val His Ile Leu Leu Ser Asn Ile Tyr Leu Leu
 275 280 285

ctg cca cct gcc ctc aac ccc ctc atc tat ggg gcc cgc acc aag cag 912
 Leu Pro Pro Ala Leu Asn Pro Leu Ile Tyr Gly Ala Arg Thr Lys Gln
 290 295 300

atc aga gac cga ctc ctg gaa acc ttc aca ttc aga aaa agc ccg ttg 960
 Ile Arg Asp Arg Leu Leu Glu Thr Phe Thr Phe Arg Lys Ser Pro Leu
 305 310 315 320

taa 963

<210> 406
 <211> 320
 <212> PRT
 <213> Homo Sapiens

<400> 406

Met Ala Glu Thr Leu Gln Leu Asn Ser Thr Phe Leu His Pro Asn Phe
 1 5 10 15

Phe Ile Leu Thr Gly Phe Pro Gly Leu Gly Ser Ala Gln Thr Trp Leu
 20 25 30

Thr Leu Val Phe Gly Pro Ile Tyr Leu Leu Ala Leu Leu Gly Asn Gly
 35 40 45

Ala Leu Pro Ala Val Val Trp Ile Asp Ser Thr Leu His Gln Pro Met
 50 55 60

Phe Leu Leu Leu Ala Ile Leu Ala Ala Thr Asp Leu Gly Leu Ala Thr
 65 70 75 80

Ser Ile Ala Pro Gly Leu Leu Ala Val Leu Trp Leu Gly Pro Arg Ser
 85 90 95

Val Pro Tyr Ala Val Cys Leu Val Gln Met Phe Phe Val His Ala Leu
 100 105 110

Thr Ala Met Glu Ser Gly Val Leu Leu Ala Met Ala Cys Asp Arg Ala
 115 120 125
 Ala Ala Ile Gly Arg Pro Leu His Tyr Pro Val Leu Val Thr Lys Ala
 130 135 140
 Cys Val Gly Tyr Ala Ala Leu Ala Leu Ala Leu Lys Ala Val Ala Ile
 145 150 155 160
 Val Val Pro Phe Pro Leu Leu Val Ala Lys Phe Glu His Phe Gln Ala
 165 170 175
 Lys Thr Ile Gly His Thr Tyr Cys Ala His Met Ala Val Val Glu Leu
 180 185 190
 Val Val Gly Asn Thr Gln Ala Thr Asn Leu Tyr Gly Leu Ala Leu Ser
 195 200 205
 Leu Ala Ile Ser Gly Met Asp Ile Leu Gly Ile Thr Gly Ser Tyr Gly
 210 215 220
 Leu Ile Ala His Ala Val Leu Gln Leu Pro Thr Arg Glu Ala His Ala
 225 230 235 240
 Lys Ala Phe Gly Thr Cys Ser Ser His Ile Cys Val Ile Leu Ala Phe
 245 250 255
 Tyr Ile Pro Gly Leu Phe Ser Tyr Leu Ala His Arg Phe Gly His His
 260 265 270
 Thr Val Pro Lys Pro Val His Ile Leu Leu Ser Asn Ile Tyr Leu Leu
 275 280 285
 Leu Pro Pro Ala Leu Asn Pro Leu Ile Tyr Gly Ala Arg Thr Lys Gln
 290 295 300
 Ile Arg Asp Arg Leu Leu Glu Thr Phe Thr Phe Arg Lys Ser Pro Leu
 305 310 315 320

<210> 407
 <211> 1008
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS

<222> (1) .. (1005)
<223>

<400> 407
atg gca cag gtg agg gcg ctg cat aaa atc atg gcc ctt ttt tct gct 48
Met Ala Gln Val Arg Ala Leu His Lys Ile Met Ala Leu Phe Ser Ala
1 5 10 15

aac agc ata ggt gct atg aac aac tct gac act cgc ata gca ggc tgc 96
Asn Ser Ile Gly Ala Met Asn Asn Ser Asp Thr Arg Ile Ala Gly Cys
20 25 30

ttc ctc act ggc atc cct ggg ctg gag caa cta cat atc tgg ctg tcc 144
Phe Leu Thr Gly Ile Pro Gly Leu Glu Gln Leu His Ile Trp Leu Ser
35 40 45

atc ccc ttc tgc atc atg tac atc gct gcc ctg gaa ggc aat ggc atc 192
Ile Pro Phe Cys Ile Met Tyr Ile Ala Ala Leu Glu Gly Asn Gly Ile
50 55 60

cta att tgt gtc atc ctc tcc cag gca atc ctg cat gag ccc atg tac 240
Leu Ile Cys Val Ile Leu Ser Gln Ala Ile Leu His Glu Pro Met Tyr
65 70 75 80

ata ttc tta tct atg ctg gcc agt gct gat gtc ttg ctc tct acc acc 288
Ile Phe Leu Ser Met Leu Ala Ser Ala Asp Val Leu Leu Ser Thr Thr
85 90 95

acc atg cct aag gcc ctg gcc aat ttg tgg cta ggt tat agc cac att 336
Thr Met Pro Lys Ala Leu Ala Asn Leu Trp Leu Gly Tyr Ser His Ile
100 105 110

tcc ttt gat ggc tgc ctc act caa aag ttc ttc att cac ttc ctc ttc 384
Ser Phe Asp Gly Cys Leu Thr Gln Lys Phe Phe Ile His Phe Leu Phe
115 120 125

att cac tct gct gtc ctg ctg gcc atg gcc ttt gac cgc tat gtg gcc 432
Ile His Ser Ala Val Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala
130 135 140

atc tgc tcc ccc ctg cga tat gtc aca atc ctc aca agc aag gtc att 480
Ile Cys Ser Pro Leu Arg Tyr Val Thr Ile Leu Thr Ser Lys Val Ile
145 150 155 160

ggg aag atc gtc act gcc acc ctg agc cgc agc ttc atc att atg ttt 528
Gly Lys Ile Val Thr Ala Thr Leu Ser Arg Ser Phe Ile Ile Met Phe
165 170 175

cca tcc atc ttt ctc ctt gag cac ctg cac tat tgc cag atc aac atc 576
Pro Ser Ile Phe Leu Leu Glu His Leu His Tyr Cys Gln Ile Asn Ile
180 185 190

att gca cac aca ttt tgt gag cac atg ggc att gcc cat ctg tcc tgt 624
Ile Ala His Thr Phe Cys Glu His Met Gly Ile Ala His Leu Ser Cys
195 200 205

tct gat atc tcc atc aat gtc tgg tat ggg ttg gca gct gct ctt ctc 672
Ser Asp Ile Ser Ile Asn Val Trp Tyr Gly Leu Ala Ala Ala Leu Leu
210 215 220

tcc aca ggc ctg gac atc atg ctt att act gtt tcc tac atc cac atc 720
 Ser Thr Gly Leu Asp Ile Met Leu Ile Thr Val Ser Tyr Ile His Ile
 225 230 235 240
 ctc caa gca gtc ttc cgc ctc ctt tct caa gat gcc cgc tcc aag gcc 768
 Leu Gln Ala Val Phe Arg Leu Leu Ser Gln Asp Ala Arg Ser Lys Ala
 245 250 255
 ctg agt acc tgt gga tcc cat atc tgt gtc atc cta ctc ttc tat gtc 816
 Leu Ser Thr Cys Gly Ser His Ile Cys Val Ile Leu Leu Phe Tyr Val
 260 265 270
 cct gcc ctt ttt tct gtc ttt gcc tac agg ttt ggt ggg aga agc atc 864
 Pro Ala Leu Phe Ser Val Phe Ala Tyr Arg Phe Gly Gly Arg Ser Ile
 275 280 285
 cca tgc tat gtc cat att ctc ctg gcc agc ctc tac gtt gtc att cct 912
 Pro Cys Tyr Val His Ile Leu Leu Ala Ser Leu Tyr Val Val Ile Pro
 290 295 300
 cct atg ctc aat ccc gtt att tat gga gtg agg act aag cca ata ctg 960
 Pro Met Leu Asn Pro Val Ile Tyr Gly Val Arg Thr Lys Pro Ile Leu
 305 310 315 320
 gaa ggg gct aag cag atg ttt tca aat ctt gcc aaa gga tct aaa taa 1008
 Glu Gly Ala Lys Gln Met Phe Ser Asn Leu Ala Lys Gly Ser Lys
 325 330 335

<210> 408
 <211> 335
 <212> PRT
 <213> Homo Sapiens

<400> 408

Met Ala Gln Val Arg Ala Leu His Lys Ile Met Ala Leu Phe Ser Ala
 1 5 10 15
 Asn Ser Ile Gly Ala Met Asn Asn Ser Asp Thr Arg Ile Ala Gly Cys
 20 25 30
 Phe Leu Thr Gly Ile Pro Gly Leu Glu Gln Leu His Ile Trp Leu Ser
 35 40 45
 Ile Pro Phe Cys Ile Met Tyr Ile Ala Ala Leu Glu Gly Asn Gly Ile
 50 55 60
 Leu Ile Cys Val Ile Leu Ser Gln Ala Ile Leu His Glu Pro Met Tyr
 65 70 75 80
 Ile Phe Leu Ser Met Leu Ala Ser Ala Asp Val Leu Leu Ser Thr Thr
 85 90 95
 Thr Met Pro Lys Ala Leu Ala Asn Leu Trp Leu Gly Tyr Ser His Ile

100	105	110
Ser Phe Asp Gly Cys Leu Thr Gln Lys Phe Phe Ile His Phe Leu Phe 115 120 125		
Ile His Ser Ala Val Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala 130 135 140		
Ile Cys Ser Pro Leu Arg Tyr Val Thr Ile Leu Thr Ser Lys Val Ile 145 150 155 160		
Gly Lys Ile Val Thr Ala Thr Leu Ser Arg Ser Phe Ile Ile Met Phe 165 170 175		
Pro Ser Ile Phe Leu Leu Glu His Leu His Tyr Cys Gln Ile Asn Ile 180 185 190		
Ile Ala His Thr Phe Cys Glu His Met Gly Ile Ala His Leu Ser Cys 195 200 205		
Ser Asp Ile Ser Ile Asn Val Trp Tyr Gly Leu Ala Ala Ala Leu Leu 210 215 220		
Ser Thr Gly Leu Asp Ile Met Leu Ile Thr Val Ser Tyr Ile His Ile 225 230 235 240		
Leu Gln Ala Val Phe Arg Leu Leu Ser Gln Asp Ala Arg Ser Lys Ala 245 250 255		
Leu Ser Thr Cys Gly Ser His Ile Cys Val Ile Leu Leu Phe Tyr Val 260 265 270		
Pro Ala Leu Phe Ser Val Phe Ala Tyr Arg Phe Gly Gly Arg Ser Ile 275 280 285		
Pro Cys Tyr Val His Ile Leu Leu Ala Ser Leu Tyr Val Val Ile Pro 290 295 300		
Pro Met Leu Asn Pro Val Ile Tyr Gly Val Arg Thr Lys Pro Ile Leu 305 310 315 320		
Glu Gly Ala Lys Gln Met Phe Ser Asn Leu Ala Lys Gly Ser Lys 325 330 335		

<210> 409

<211> 957

<212> DNA
<213> Homo Sapiens

<220>
<221> CDS
<222> (1) .. (954)
<223>

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<400> 409
atg tca gat tcc aac ctc agt gat aac cat ctt cca gac acc ttc ttc      48
Met Ser Asp Ser Asn Leu Ser Asp Asn His Leu Pro Asp Thr Phe Phe
1          5          10          15

tta aca ggg atc cca ggg ctg gag gct gcc cac ttc tgg att gcc atc      96
Leu Thr Gly Ile Pro Gly Leu Glu Ala Ala His Phe Trp Ile Ala Ile
          20          25          30

cct ttc tgt gcc atg tat ctt gta gca ctg gtt gga aat gct gcc ctc      144
Pro Phe Cys Ala Met Tyr Leu Val Ala Leu Val Gly Asn Ala Ala Leu
          35          40          45

atc ctg gtc att gcc atg gac aat gct ctt cat gca cct atg tac ctc      192
Ile Leu Val Ile Ala Met Asp Asn Ala Leu His Ala Pro Met Tyr Leu
          50          55          60

ttc ctc tgc ctt ctc tca ctc aca gac ctg gct ctc agt tct acc act      240
Phe Leu Cys Leu Leu Ser Leu Thr Asp Leu Ala Leu Ser Ser Thr Thr
65          70          75          80

gtg ccc aag atg ctg gcc att ttg tgg ctc cat gct ggt gag att tcc      288
Val Pro Lys Met Leu Ala Ile Leu Trp Leu His Ala Gly Glu Ile Ser
          85          90          95

ttt ggt gga tgc ctg gcc cag atg ttt tgt gtc cat tct atc tat gct      336
Phe Gly Gly Cys Leu Ala Gln Met Phe Cys Val His Ser Ile Tyr Ala
          100          105          110

ctg gag tcc tcg att cta ctt gcc atg gcc ttt gat agg tat gtg gct      384
Leu Glu Ser Ser Ile Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala
          115          120          125

atc tgt aac cca tta agg tat aca acc att ctc aac cat gct gtc ata      432
Ile Cys Asn Pro Leu Arg Tyr Thr Thr Ile Leu Asn His Ala Val Ile
          130          135          140

ggc aga att ggc ttt gtt ggg cta ttc cgt agt gtg gct att gtc tcc      480
Gly Arg Ile Gly Phe Val Gly Leu Phe Arg Ser Val Ala Ile Val Ser
145          150          155          160

ccc ttc atc ttc ttg ctg agg cga ctc ccc tac tgt ggt cac cgt gtc      528
Pro Phe Ile Phe Leu Leu Arg Arg Leu Pro Tyr Cys Gly His Arg Val
          165          170          175

atg aca cac aca tac tgt gag cat atg ggc atc gcc cga ctg gcc tgt      576
Met Thr His Thr Tyr Cys Glu His Met Gly Ile Ala Arg Leu Ala Cys
          180          185          190

gcc aac atc act gtc aat att gtc tat ggg cta act gtg gct ctg ctg      624
Ala Asn Ile Thr Val Asn Ile Val Tyr Gly Leu Thr Val Ala Leu Leu
          195          200          205

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gcc atg gga ctg gat tcc att ctc att gcc att tcc tat ggc ttt atc 672
 Ala Met Gly Leu Asp Ser Ile Leu Ile Ala Ile Ser Tyr Gly Phe Ile
 210 215 220

ctc cat gca gtc ttt cac ctt cca tct cat gat gcc cag cac aaa gct 720
 Leu His Ala Val Phe His Leu Pro Ser His Asp Ala Gln His Lys Ala
 225 230 235 240

ctg agt acc tgt ggc tcc cac att ggc atc atc ctg gtt ttc tac atc 768
 Leu Ser Thr Cys Gly Ser His Ile Gly Ile Ile Leu Val Phe Tyr Ile
 245 250 255

cct gcc ttc ttc tcc ttc ctc acc cac cgc ttt ggt cac cac gaa gtc 816
 Pro Ala Phe Phe Ser Phe Leu Thr His Arg Phe Gly His His Glu Val
 260 265 270

ccc aag cat gtg cac atc ttt ctg gct aat ctc tat gtg ctg gtg cct 864
 Pro Lys His Val His Ile Phe Leu Ala Asn Leu Tyr Val Leu Val Pro
 275 280 285

cct gta ctc aat cct att ctc tat gga gct aga acc aag gag att cgg 912
 Pro Val Leu Asn Pro Ile Leu Tyr Gly Ala Arg Thr Lys Glu Ile Arg
 290 295 300

agt cga ctt cta aaa ctg ctt cac ctg ggg aag act tca ata tga 957
 Ser Arg Leu Leu Lys Leu Leu His Leu Gly Lys Thr Ser Ile
 305 310 315

<210> 410
 <211> 318
 <212> PRT
 <213> Homo Sapiens

<400> 410

Met Ser Asp Ser Asn Leu Ser Asp Asn His Leu Pro Asp Thr Phe Phe
 1 5 10 15

Leu Thr Gly Ile Pro Gly Leu Glu Ala Ala His Phe Trp Ile Ala Ile
 20 25 30

Pro Phe Cys Ala Met Tyr Leu Val Ala Leu Val Gly Asn Ala Ala Leu
 35 40 45

Ile Leu Val Ile Ala Met Asp Asn Ala Leu His Ala Pro Met Tyr Leu
 50 55 60

Phe Leu Cys Leu Leu Ser Leu Thr Asp Leu Ala Leu Ser Ser Thr Thr
 65 70 75 80

Val Pro Lys Met Leu Ala Ile Leu Trp Leu His Ala Gly Glu Ile Ser
 85 90 95

Phe Gly Gly Cys Leu Ala Gln Met Phe Cys Val His Ser Ile Tyr Ala
 100 105 110

Leu Glu Ser Ser Ile Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala
 115 120 125

Ile Cys Asn Pro Leu Arg Tyr Thr Thr Ile Leu Asn His Ala Val Ile
 130 135 140

Gly Arg Ile Gly Phe Val Gly Leu Phe Arg Ser Val Ala Ile Val Ser
 145 150 155 160

Pro Phe Ile Phe Leu Leu Arg Arg Leu Pro Tyr Cys Gly His Arg Val
 165 170 175

Met Thr His Thr Tyr Cys Glu His Met Gly Ile Ala Arg Leu Ala Cys
 180 185 190

Ala Asn Ile Thr Val Asn Ile Val Tyr Gly Leu Thr Val Ala Leu Leu
 195 200 205

Ala Met Gly Leu Asp Ser Ile Leu Ile Ala Ile Ser Tyr Gly Phe Ile
 210 215 220

Leu His Ala Val Phe His Leu Pro Ser His Asp Ala Gln His Lys Ala
 225 230 235 240

Leu Ser Thr Cys Gly Ser His Ile Gly Ile Ile Leu Val Phe Tyr Ile
 245 250 255

Pro Ala Phe Phe Ser Phe Leu Thr His Arg Phe Gly His His Glu Val
 260 265 270

Pro Lys His Val His Ile Phe Leu Ala Asn Leu Tyr Val Leu Val Pro
 275 280 285

Pro Val Leu Asn Pro Ile Leu Tyr Gly Ala Arg Thr Lys Glu Ile Arg
 290 295 300

Ser Arg Leu Leu Lys Leu Leu His Leu Gly Lys Thr Ser Ile
 305 310 315

<210> 411

<211> 945

<212> DNA

<213> Homo Sapiens

<220>
 <221> CDS
 <222> (1) .. (945)
 <223>

<400> 411

atg atc att ttc aac ctg agc agt tac aat cca gga ccc ttc att ctg	48
Met Ile Ile Phe Asn Leu Ser Ser Tyr Asn Pro Gly Pro Phe Ile Leu	
1 5 10 15	
gta ggg atc cca ggc ctg gag caa ttc cat gtg tgg att gga att ccc	96
Val Gly Ile Pro Gly Leu Glu Gln Phe His Val Trp Ile Gly Ile Pro	
20 25 30	
ttc tgt atc atc tac att gta gct gtt gtg gga aac tgc atc ctt ctc	144
Phe Cys Ile Ile Tyr Ile Val Ala Val Val Gly Asn Cys Ile Leu Leu	
35 40 45	
tac ctc att gtg gtg gag cat agt ctt cat gaa ccc atg ttc ttc ttt	192
Tyr Leu Ile Val Val Glu His Ser Leu His Glu Pro Met Phe Phe Phe	
50 55 60	
ctc tcc atg ctg gcc atg act gac ctc atc ttg tcc aca gct ggt gtg	240
Leu Ser Met Leu Ala Met Thr Asp Leu Ile Leu Ser Thr Ala Gly Val	
65 70 75 80	
cct aaa gca ctc agt atc ttt tgg cta ggg gct cgc gaa atc aca ttc	288
Pro Lys Ala Leu Ser Ile Phe Trp Leu Gly Ala Arg Glu Ile Thr Phe	
85 90 95	
cca gga tgc ctt aca caa atg ttc ttc ctt cac tat aac ttt gtc ctg	336
Pro Gly Cys Leu Thr Gln Met Phe Phe Leu His Tyr Asn Phe Val Leu	
100 105 110	
gat tca gcc att ctg atg gcc atg gca ttt gat cac tat gta gct atc	384
Asp Ser Ala Ile Leu Met Ala Met Ala Phe Asp His Tyr Val Ala Ile	
115 120 125	
tgt tct ccc ttg aga tat acc acc atc ttg act ccc aag acc atc atc	432
Cys Ser Pro Leu Arg Tyr Thr Thr Ile Leu Thr Pro Lys Thr Ile Ile	
130 135 140	
aag agt gct atg ggc atc tcc ttt cga agc ttc tgc atc atc ctg cca	480
Lys Ser Ala Met Gly Ile Ser Phe Arg Ser Phe Cys Ile Ile Leu Pro	
145 150 155 160	
gat gta ttc ttg ctg aca tgc ctg cct ttc tgc agg aca cgc atc ata	528
Asp Val Phe Leu Leu Thr Cys Leu Pro Phe Cys Arg Thr Arg Ile Ile	
165 170 175	
ccc cac aca tac tgt gag cat ata ggt gtt gcc cag ctc gcc tgt gct	576
Pro His Thr Tyr Cys Glu His Ile Gly Val Ala Gln Leu Ala Cys Ala	
180 185 190	
gat atc tcc atc aac ttc tgg tat ggc ttt tgt gtt ccc atc atg acg	624
Asp Ile Ser Ile Asn Phe Trp Tyr Gly Phe Cys Val Pro Ile Met Thr	
195 200 205	
gtc atc tca gat gtg att ctc att gct gtt tcc tac gca cac atc ctc	672
Val Ile Ser Asp Val Ile Leu Ile Ala Val Ser Tyr Ala His Ile Leu	

210	215	220	
tgt gct gtc ttt ggc ctt ccc tcc caa gat gcc tgc cag aaa gcc ctc			720
Cys Ala Val Phe Gly Leu Pro Ser Gln Asp Ala Cys Gln Lys Ala Leu			
225	230	235	240
ggc act tgt ggt tct cat gtc tgt gtc atc ctc atg ttt tat aca cct			768
Gly Thr Cys Gly Ser His Val Cys Val Ile Leu Met Phe Tyr Thr Pro			
	245	250	255
gcc ttt ttc tcc atc ctc gcc cat cgc ttt gga cac aat gtc tct cgc			816
Ala Phe Phe Ser Ile Leu Ala His Arg Phe Gly His Asn Val Ser Arg			
	260	265	270
acc ttc cac atc atg ttt gcc aat ctc tac att gtt atc cca cct gca			864
Thr Phe His Ile Met Phe Ala Asn Leu Tyr Ile Val Ile Pro Pro Ala			
	275	280	285
ctc aac ccc atg gtt tac gga gtg aag acc aag cag atc aga gat aag			912
Leu Asn Pro Met Val Tyr Gly Val Lys Thr Lys Gln Ile Arg Asp Lys			
	290	295	300
gtt ata ctt ttg ttt tct aag ggt aca gga tga			945
Val Ile Leu Leu Phe Ser Lys Gly Thr Gly			
	305	310	

<210> 412
 <211> 314
 <212> PRT
 <213> Homo Sapiens

<400> 412

Met Ile Ile Phe Asn Leu Ser Ser Tyr Asn Pro Gly Pro Phe Ile Leu
1 5 10 15

Val Gly Ile Pro Gly Leu Glu Gln Phe His Val Trp Ile Gly Ile Pro
20 25 30

Phe Cys Ile Ile Tyr Ile Val Ala Val Val Gly Asn Cys Ile Leu Leu
35 40 45

Tyr Leu Ile Val Val Glu His Ser Leu His Glu Pro Met Phe Phe Phe
50 55 60

Leu Ser Met Leu Ala Met Thr Asp Leu Ile Leu Ser Thr Ala Gly Val
65 70 75 80

Pro Lys Ala Leu Ser Ile Phe Trp Leu Gly Ala Arg Glu Ile Thr Phe
85 90 95

Pro Gly Cys Leu Thr Gln Met Phe Phe Leu His Tyr Asn Phe Val Leu
100 105 110

Asp Ser Ala Ile Leu Met Ala Met Ala Phe Asp His Tyr Val Ala Ile
 115 120 125

Cys Ser Pro Leu Arg Tyr Thr Thr Ile Leu Thr Pro Lys Thr Ile Ile
 130 135 140

Lys Ser Ala Met Gly Ile Ser Phe Arg Ser Phe Cys Ile Ile Leu Pro
 145 150 155 160

Asp Val Phe Leu Leu Thr Cys Leu Pro Phe Cys Arg Thr Arg Ile Ile
 165 170 175

Pro His Thr Tyr Cys Glu His Ile Gly Val Ala Gln Leu Ala Cys Ala
 180 185 190

Asp Ile Ser Ile Asn Phe Trp Tyr Gly Phe Cys Val Pro Ile Met Thr
 195 200 205

Val Ile Ser Asp Val Ile Leu Ile Ala Val Ser Tyr Ala His Ile Leu
 210 215 220

Cys Ala Val Phe Gly Leu Pro Ser Gln Asp Ala Cys Gln Lys Ala Leu
 225 230 235 240

Gly Thr Cys Gly Ser His Val Cys Val Ile Leu Met Phe Tyr Thr Pro
 245 250 255

Ala Phe Phe Ser Ile Leu Ala His Arg Phe Gly His Asn Val Ser Arg
 260 265 270

Thr Phe His Ile Met Phe Ala Asn Leu Tyr Ile Val Ile Pro Pro Ala
 275 280 285

Leu Asn Pro Met Val Tyr Gly Val Lys Thr Lys Gln Ile Arg Asp Lys
 290 295 300

Val Ile Leu Leu Phe Ser Lys Gly Thr Gly
 305 310

<210> 413
 <211> 939
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1) .. (936)

<223>

<400> 413

atg ggg ttg ttc aat gtc act cac cct gca ttc ttc ctc ctg act ggt	48
Met Gly Leu Phe Asn Val Thr His Pro Ala Phe Phe Leu Leu Thr Gly	
1 5 10 15	
atc cct ggt ctg gag agc tct cac tcc tgg ctg tca ggg ccc ctc tgc	96
Ile Pro Gly Leu Glu Ser Ser His Ser Trp Leu Ser Gly Pro Leu Cys	
20 25 30	
gtg atg tat gct gtg gcc ctt ggg gga aat aca gtg atc ctg cag gct	144
Val Met Tyr Ala Val Ala Leu Gly Gly Asn Thr Val Ile Leu Gln Ala	
35 40 45	
gtg cga gtg gag ccc agc ctc cat gag ccc atg tac tac ttc ctg tcc	192
Val Arg Val Glu Pro Ser Leu His Glu Pro Met Tyr Tyr Phe Leu Ser	
50 55 60	
atg ttg tcc ttc agt gat gtg gcc ata tcc atg gcc aca ctg ccc act	240
Met Leu Ser Phe Ser Asp Val Ala Ile Ser Met Ala Thr Leu Pro Thr	
65 70 75 80	
gta ctc cga acc ttc tgc ctc aat gcc cgc aac atc act ttt gat gcc	288
Val Leu Arg Thr Phe Cys Leu Asn Ala Arg Asn Ile Thr Phe Asp Ala	
85 90 95	
tgt cta att cag atg ttt ctt att cac ttc ttc tcc atg atg gaa tca	336
Cys Leu Ile Gln Met Phe Leu Ile His Phe Phe Ser Met Met Glu Ser	
100 105 110	
ggg att ctg ctg gcc atg agt ttt gac cgc tat gtg gcc att tgt gac	384
Gly Ile Leu Leu Ala Met Ser Phe Asp Arg Tyr Val Ala Ile Cys Asp	
115 120 125	
ccc ttg cgc tat gca act gtg ctc acc act gaa gtc att gct gca atg	432
Pro Leu Arg Tyr Ala Thr Val Leu Thr Thr Glu Val Ile Ala Ala Met	
130 135 140	
ggg tta ggt gca gct gct cga agc ttc atc acc ctt ttc cct ctt ccc	480
Gly Leu Gly Ala Ala Ala Arg Ser Phe Ile Thr Leu Phe Pro Leu Pro	
145 150 155 160	
ttt ctt att aag agg ctg cct atc tgc aga tcc aat gtt ctt tct cac	528
Phe Leu Ile Lys Arg Leu Pro Ile Cys Arg Ser Asn Val Leu Ser His	
165 170 175	
tcc tac tgc ctg cac cca gac atg atg agg ctt gcc tgt gct gat atc	576
Ser Tyr Cys Leu His Pro Asp Met Met Arg Leu Ala Cys Ala Asp Ile	
180 185 190	
agt atc aac agc atc tat gga ctc ttt gtt ctt gta tcc acc ttt ggc	624
Ser Ile Asn Ser Ile Tyr Gly Leu Phe Val Leu Val Ser Thr Phe Gly	
195 200 205	
atg gac ctg ttt ttt atc ttc ctc tcc tat gtg ctc att ctg cgt tct	672
Met Asp Leu Phe Phe Ile Phe Leu Ser Tyr Val Leu Ile Leu Arg Ser	
210 215 220	
gtc atg gcc act gct tcc cgt gag gaa cgc ctc aaa gct ctc aac aca	720

Val Met Ala Thr Ala Ser Arg Glu Glu Arg Leu Lys Ala Leu Asn Thr
 225 230 235 240

tgt gtg tca cat atc ctg gct gta ctt gca ttt tat gtg cca atg att 768
 Cys Val Ser His Ile Leu Ala Val Leu Ala Phe Tyr Val Pro Met Ile
 245 250 255

ggg gtc tcc aca gtg cac cgc ttt ggg aag cat gtc cca tgc tac ata 816
 Gly Val Ser Thr Val His Arg Phe Gly Lys His Val Pro Cys Tyr Ile
 260 265 270

cat gtc ctc atg tca aat gtg tac cta ttt gtg cct cct gtg ctc aac 864
 His Val Leu Met Ser Asn Val Tyr Leu Phe Val Pro Val Val Leu Asn
 275 280 285

cct ctc att tat agc gcc aag aca aag gaa atc cgc cga gcc att ttc 912
 Pro Leu Ile Tyr Ser Ala Lys Thr Lys Glu Ile Arg Arg Ala Ile Phe
 290 295 300

cgc atg ttt cac cac atc aaa ata tga 939
 Arg Met Phe His His Ile Lys Ile
 305 310

<210> 414
 <211> 312
 <212> PRT
 <213> Homo Sapiens

<400> 414

Met Gly Leu Phe Asn Val Thr His Pro Ala Phe Phe Leu Leu Thr Gly
 1 5 10 15

Ile Pro Gly Leu Glu Ser Ser His Ser Trp Leu Ser Gly Pro Leu Cys
 20 25 30

Val Met Tyr Ala Val Ala Leu Gly Gly Asn Thr Val Ile Leu Gln Ala
 35 40 45

Val Arg Val Glu Pro Ser Leu His Glu Pro Met Tyr Tyr Phe Leu Ser
 50 55 60

Met Leu Ser Phe Ser Asp Val Ala Ile Ser Met Ala Thr Leu Pro Thr
 65 70 75 80

Val Leu Arg Thr Phe Cys Leu Asn Ala Arg Asn Ile Thr Phe Asp Ala
 85 90 95

Cys Leu Ile Gln Met Phe Leu Ile His Phe Phe Ser Met Met Glu Ser
 100 105 110

Gly Ile Leu Leu Ala Met Ser Phe Asp Arg Tyr Val Ala Ile Cys Asp
 115 120 125

Pro Leu Arg Tyr Ala Thr Val Leu Thr Thr Glu Val Ile Ala Ala Met
 130 135 140

Gly Leu Gly Ala Ala Ala Arg Ser Phe Ile Thr Leu Phe Pro Leu Pro
 145 150 155 160

Phe Leu Ile Lys Arg Leu Pro Ile Cys Arg Ser Asn Val Leu Ser His
 165 170 175

Ser Tyr Cys Leu His Pro Asp Met Met Arg Leu Ala Cys Ala Asp Ile
 180 185 190

Ser Ile Asn Ser Ile Tyr Gly Leu Phe Val Leu Val Ser Thr Phe Gly
 195 200 205

Met Asp Leu Phe Phe Ile Phe Leu Ser Tyr Val Leu Ile Leu Arg Ser
 210 215 220

Val Met Ala Thr Ala Ser Arg Glu Glu Arg Leu Lys Ala Leu Asn Thr
 225 230 235 240

Cys Val Ser His Ile Leu Ala Val Leu Ala Phe Tyr Val Pro Met Ile
 245 250 255

Gly Val Ser Thr Val His Arg Phe Gly Lys His Val Pro Cys Tyr Ile
 260 265 270

His Val Leu Met Ser Asn Val Tyr Leu Phe Val Pro Pro Val Leu Asn
 275 280 285

Pro Leu Ile Tyr Ser Ala Lys Thr Lys Glu Ile Arg Arg Ala Ile Phe
 290 295 300

Arg Met Phe His His Ile Lys Ile
 305 310

<210> 415
 <211> 945
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1) .. (942)
 <223>

<400> 415

atg ctg ggt ctc aat ggc acc ccc ttc cag cca gca aca ctc cag ctg	48
Met Leu Gly Leu Asn Gly Thr Pro Phe Gln Pro Ala Thr Leu Gln Leu	
1 5 10 15	
aca ggc att cct ggg ata caa aca ggc ctc acc tgg gtt gcc ctg att	96
Thr Gly Ile Pro Gly Ile Gln Thr Gly Leu Thr Trp Val Ala Leu Ile	
20 25 30	
ttc tgc atc ctc tac atg atc tcc att gta ggt aac ctc agc att ctc	144
Phe Cys Ile Leu Tyr Met Ile Ser Ile Val Gly Asn Leu Ser Ile Leu	
35 40 45	
act ctg gtg ttt tgg gag cct gct ctg cat cag ccc atg tac tac ttc	192
Thr Leu Val Phe Trp Glu Pro Ala Leu His Gln Pro Met Tyr Tyr Phe	
50 55 60	
ctc tct atg ctc gct ctc aat gat ctg gga gtg tcc ttt tct aca ctt	240
Leu Ser Met Leu Ala Leu Asn Asp Leu Gly Val Ser Phe Ser Thr Leu	
65 70 75 80	
ccc act gtg att tct act ttc tgc ttc aac tac aac cat gtt gcg ttt	288
Pro Thr Val Ile Ser Thr Phe Cys Phe Asn Tyr Asn His Val Ala Phe	
85 90 95	
aat gct tgc ctg gtc cag atg ttc ttc atc cac act ttc tcc ttc atg	336
Asn Ala Cys Leu Val Gln Met Phe Phe Ile His Thr Phe Ser Phe Met	
100 105 110	
gag tca ggc ata ctg ctg gcc atg agc ttg gat cgc ttt gtg gct att	384
Glu Ser Gly Ile Leu Leu Ala Met Ser Leu Asp Arg Phe Val Ala Ile	
115 120 125	
tgt tat cca tta cgc tat gtc act gtg ctc act cac aac cgt ata ttg	432
Cys Tyr Pro Leu Arg Tyr Val Thr Val Leu Thr His Asn Arg Ile Leu	
130 135 140	
gct atg ggt ctg ggc atc ctt acc aag agt ttc acc act ctc ttc cct	480
Ala Met Gly Leu Gly Ile Leu Thr Lys Ser Phe Thr Thr Leu Phe Pro	
145 150 155 160	
ttc cct ttt gtg gtg aaa cga ctg ccc ttc tgc aaa ggc aat gtt ttg	528
Phe Pro Phe Val Val Lys Arg Leu Pro Phe Cys Lys Gly Asn Val Leu	
165 170 175	
cat cac tcc tac tgt ctc cat cca gat ctc atg aaa gta gca tgt gga	576
His His Ser Tyr Cys Leu His Pro Asp Leu Met Lys Val Ala Cys Gly	
180 185 190	
gac atc cat gtt aac aac att tat ggg ctc ttg gtg atc att ttt acc	624
Asp Ile His Val Asn Asn Ile Tyr Gly Leu Leu Val Ile Ile Phe Thr	
195 200 205	
tat ggt atg gac tca act ttc atc ctg ctt tcc tac gca ttg atc ctg	672
Tyr Gly Met Asp Ser Thr Phe Ile Leu Leu Ser Tyr Ala Leu Ile Leu	
210 215 220	
aga gcc atg ctg gtc atc ata tcc cag gaa cag cgg ctc aag gca ctc	720
Arg Ala Met Leu Val Ile Ile Ser Gln Glu Gln Arg Leu Lys Ala Leu	
225 230 235 240	

aac acc tgc atg tca cac atc tgt gca gtg ctg gcc ttt tat gtg ccc 768
 Asn Thr Cys Met Ser His Ile Cys Ala Val Leu Ala Phe Tyr Val Pro
 245 250 255

ata att gct gtc tcc atg att cac cgc ttc tgg aaa agt gct cca cct 816
 Ile Ile Ala Val Ser Met Ile His Arg Phe Trp Lys Ser Ala Pro Pro
 260 265 270

gtt gtt cat gtc atg atg tcc aat gtc tac ctg ttt gta cca ccc atg 864
 Val Val His Val Met Met Ser Asn Val Tyr Leu Phe Val Pro Pro Met
 275 280 285

ctc aac cct atc atc tac agt gtg aaa acc aag gag atc cgc aaa ggg 912
 Leu Asn Pro Ile Ile Tyr Ser Val Lys Thr Lys Glu Ile Arg Lys Gly
 290 295 300

att ctc aag ttc ttc cat aaa tcc cag gcc tga 945
 Ile Leu Lys Phe Phe His Lys Ser Gln Ala
 305 310

<210> 416

<211> 314

<212> PRT

<213> Homo Sapiens

<400> 416

Met Leu Gly Leu Asn Gly Thr Pro Phe Gln Pro Ala Thr Leu Gln Leu
 1 5 10 15

Thr Gly Ile Pro Gly Ile Gln Thr Gly Leu Thr Trp Val Ala Leu Ile
 20 25 30

Phe Cys Ile Leu Tyr Met Ile Ser Ile Val Gly Asn Leu Ser Ile Leu
 35 40 45

Thr Leu Val Phe Trp Glu Pro Ala Leu His Gln Pro Met Tyr Tyr Phe
 50 55 60

Leu Ser Met Leu Ala Leu Asn Asp Leu Gly Val Ser Phe Ser Thr Leu
 65 70 75 80

Pro Thr Val Ile Ser Thr Phe Cys Phe Asn Tyr Asn His Val Ala Phe
 85 90 95

Asn Ala Cys Leu Val Gln Met Phe Phe Ile His Thr Phe Ser Phe Met
 100 105 110

Glu Ser Gly Ile Leu Leu Ala Met Ser Leu Asp Arg Phe Val Ala Ile
 115 120 125

Cys Tyr Pro Leu Arg Tyr Val Thr Val Leu Thr His Asn Arg Ile Leu

130 135 140
 Ala Met Gly Leu Gly Ile Leu Thr Lys Ser Phe Thr Thr Leu Phe Pro
 145 150 155 160
 Phe Pro Phe Val Val Lys Arg Leu Pro Phe Cys Lys Gly Asn Val Leu
 165 170 175
 His His Ser Tyr Cys Leu His Pro Asp Leu Met Lys Val Ala Cys Gly
 180 185 190
 Asp Ile His Val Asn Asn Ile Tyr Gly Leu Leu Val Ile Ile Phe Thr
 195 200 205
 Tyr Gly Met Asp Ser Thr Phe Ile Leu Leu Ser Tyr Ala Leu Ile Leu
 210 215 220
 Arg Ala Met Leu Val Ile Ile Ser Gln Glu Gln Arg Leu Lys Ala Leu
 225 230 235 240
 Asn Thr Cys Met Ser His Ile Cys Ala Val Leu Ala Phe Tyr Val Pro
 245 250 255
 Ile Ile Ala Val Ser Met Ile His Arg Phe Trp Lys Ser Ala Pro Pro
 260 265 270
 Val Val His Val Met Met Ser Asn Val Tyr Leu Phe Val Pro Pro Met
 275 280 285
 Leu Asn Pro Ile Ile Tyr Ser Val Lys Thr Lys Glu Ile Arg Lys Gly
 290 295 300
 Ile Leu Lys Phe Phe His Lys Ser Gln Ala
 305 310

<210> 417
 <211> 981
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1)..(978)
 <223>

<400> 417
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 Met Ser Val Gln Tyr Ser Leu Ser Pro Gln Phe Met Leu Leu Ser Asn

48

1	5	10	15	
att act cag ttt agc ccc ata ttc tat ctc acc agc ttt cct gga ttg				96
Ile Thr Gln Phe Ser Pro Ile Phe Tyr Leu Thr Ser Phe Pro Gly Leu	20	25	30	
gaa ggc atc aaa cac tgg att ttc atc ccc ttt ttc ttt atg tac atg				144
Glu Gly Ile Lys His Trp Ile Phe Ile Pro Phe Phe Phe Met Tyr Met	35	40	45	
gtt gcc atc tca ggc aat tgt ttc att ctg atc att att aag acc aac				192
Val Ala Ile Ser Gly Asn Cys Phe Ile Leu Ile Ile Ile Lys Thr Asn	50	55	60	
cct cgt ctg cac aca ccc atg tac tat cta cta tcc ttg ctg gcc ctc				240
Pro Arg Leu His Thr Pro Met Tyr Tyr Leu Leu Ser Leu Leu Ala Leu	65	70	75	80
act gac ctg ggg ctg tgt gtg tcc acg ttg ccc acc act atg ggg atc				288
Thr Asp Leu Gly Leu Cys Val Ser Thr Leu Pro Thr Thr Met Gly Ile	85	90	95	
ttc tgg ttt aac tcc cag agt atc tac ttt gga gcg tgt caa atc cag				336
Phe Trp Phe Asn Ser Gln Ser Ile Tyr Phe Gly Ala Cys Gln Ile Gln	100	105	110	
atg ttc tgc atc cac tct ttt tcc ttc atg gag tcc tca gtg ctc ctc				384
Met Phe Cys Ile His Ser Phe Ser Phe Met Glu Ser Ser Val Leu Leu	115	120	125	
atg atg tcc ttt gac cgc ttt gtg gcc atc tgc cac cct ctg agg tat				432
Met Met Ser Phe Asp Arg Phe Val Ala Ile Cys His Pro Leu Arg Tyr	130	135	140	
tcg gtc att atc act ggc cag caa gtg gtc aga gca ggc cta att gtc				480
Ser Val Ile Ile Thr Gly Gln Gln Val Val Arg Ala Gly Leu Ile Val	145	150	155	160
atc ttc cgg gga cct gtg gcc act atc cct att gtc ctc ctc ctg aag				528
Ile Phe Arg Gly Pro Val Ala Thr Ile Pro Ile Val Leu Leu Leu Lys	165	170	175	
gct ttt ccc tac tgt gga tct gtg gtc ctc tcc cac tca ttt tgc ctg				576
Ala Phe Pro Tyr Cys Gly Ser Val Val Leu Ser His Ser Phe Cys Leu	180	185	190	
cac cag gaa gtg ata cag ctg gcc tgc aca gat acc acc ttc aat aat				624
His Gln Glu Val Ile Gln Leu Ala Cys Thr Asp Thr Thr Phe Asn Asn	195	200	205	
ctg tat gga ctg atg gtg gta gtt ttc act gtg atg ctg gac ctg gtg				672
Leu Tyr Gly Leu Met Val Val Val Phe Thr Val Met Leu Asp Leu Val	210	215	220	
ctc atc gca ctg tcc tat gga ctc atc ctg cac aca gta gca ggc ctg				720
Leu Ile Ala Leu Ser Tyr Gly Leu Ile Leu His Thr Val Ala Gly Leu	225	230	235	240
gcc tcc caa gag gag cag cgc cgt gcc ttt cag aca tgc acc gct cat				768
Ala Ser Gln Glu Glu Gln Arg Arg Ala Phe Gln Thr Cys Thr Ala His	245	250	255	

ctc tgt gct gtg cta gta ttc ttt gtg ccc atg atg ggg ctg tcc ctg 816
 Leu Cys Ala Val Leu Val Phe Phe Val Pro Met Met Gly Leu Ser Leu
 260 265 270

gtg cac cgt ttt ggg aag cat gcc cca cct gct att cat ctt ctt atg 864
 Val His Arg Phe Gly Lys His Ala Pro Pro Ala Ile His Leu Leu Met
 275 280 285

gcc aat gtc tac ctt ttt gtg cct ccc atg ctt aac cca atc ata tac 912
 Ala Asn Val Tyr Leu Phe Val Pro Pro Met Leu Asn Pro Ile Ile Tyr
 290 295 300

agc att aag acc aag gag atc cac cgt gcc att atc aaa ctc cta ggt 960
 Ser Ile Lys Thr Lys Glu Ile His Arg Ala Ile Ile Lys Leu Leu Gly
 305 310 315 320

ctt aaa aag gcc agt aaa tga 981
 Leu Lys Lys Ala Ser Lys
 325

<210> 418
 <211> 326
 <212> PRT
 <213> Homo Sapiens

<400> 418

Met Ser Val Gln Tyr Ser Leu Ser Pro Gln Phe Met Leu Leu Ser Asn
 1 5 10 15

Ile Thr Gln Phe Ser Pro Ile Phe Tyr Leu Thr Ser Phe Pro Gly Leu
 20 25 30

Glu Gly Ile Lys His Trp Ile Phe Ile Pro Phe Phe Phe Met Tyr Met
 35 40 45

Val Ala Ile Ser Gly Asn Cys Phe Ile Leu Ile Ile Ile Lys Thr Asn
 50 55 60

Pro Arg Leu His Thr Pro Met Tyr Tyr Leu Leu Ser Leu Leu Ala Leu
 65 70 75 80

Thr Asp Leu Gly Leu Cys Val Ser Thr Leu Pro Thr Thr Met Gly Ile
 85 90 95

Phe Trp Phe Asn Ser Gln Ser Ile Tyr Phe Gly Ala Cys Gln Ile Gln
 100 105 110

Met Phe Cys Ile His Ser Phe Ser Phe Met Glu Ser Ser Val Leu Leu
 115 120 125

Met Met Ser Phe Asp Arg Phe Val Ala Ile Cys His Pro Leu Arg Tyr
 130 135 140

Ser Val Ile Ile Thr Gly Gln Gln Val Val Arg Ala Gly Leu Ile Val
 145 150 155 160

Ile Phe Arg Gly Pro Val Ala Thr Ile Pro Ile Val Leu Leu Leu Lys
 165 170 175

Ala Phe Pro Tyr Cys Gly Ser Val Val Leu Ser His Ser Phe Cys Leu
 180 185 190

His Gln Glu Val Ile Gln Leu Ala Cys Thr Asp Thr Thr Phe Asn Asn
 195 200 205

Leu Tyr Gly Leu Met Val Val Val Phe Thr Val Met Leu Asp Leu Val
 210 215 220

Leu Ile Ala Leu Ser Tyr Gly Leu Ile Leu His Thr Val Ala Gly Leu
 225 230 235 240

Ala Ser Gln Glu Glu Gln Arg Arg Ala Phe Gln Thr Cys Thr Ala His
 245 250 255

Leu Cys Ala Val Leu Val Phe Phe Val Pro Met Met Gly Leu Ser Leu
 260 265 270

Val His Arg Phe Gly Lys His Ala Pro Pro Ala Ile His Leu Leu Met
 275 280 285

Ala Asn Val Tyr Leu Phe Val Pro Pro Met Leu Asn Pro Ile Ile Tyr
 290 295 300

Ser Ile Lys Thr Lys Glu Ile His Arg Ala Ile Ile Lys Leu Leu Gly
 305 310 315 320

Leu Lys Lys Ala Ser Lys
 325

<210> 419
 <211> 954
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1) .. (951)
 <223>

<400> 419
 atg tcc cag gtg act aac acc aca caa gaa ggc atc tac ttc atc ctc 48
 Met Ser Gln Val Thr Asn Thr Thr Gln Glu Gly Ile Tyr Phe Ile Leu
 1 5 10 15

acg gac atc cct gga ttt gag gcc tcc cac atc tgg atc tcc atc ccc 96
 Thr Asp Ile Pro Gly Phe Glu Ala Ser His Ile Trp Ile Ser Ile Pro
 20 25 30

gtc tgc tgt ctc tac acc atc tcc atc atg ggc aat acc acc atc ctc 144
 Val Cys Cys Leu Tyr Thr Ile Ser Ile Met Gly Asn Thr Thr Ile Leu
 35 40 45

act gtc att cgc aca gag cca tct gtc cac cag cgc atg tat ctg ttt 192
 Thr Val Ile Arg Thr Glu Pro Ser Val His Gln Arg Met Tyr Leu Phe
 50 55 60

ctc tcc atg ctg gcc ctg acg gac ctg ggt ctc acc ctc acc acc cta 240
 Leu Ser Met Leu Ala Leu Thr Asp Leu Gly Leu Thr Leu Thr Thr Leu
 65 70 75 80

ccc aca gtc atg cag ctt ctc tgg ttc aac gtt cgt aga atc agc tct 288
 Pro Thr Val Met Gln Leu Leu Trp Phe Asn Val Arg Arg Ile Ser Ser
 85 90 95

gag gcc tgt ttt gct cag ttt ttc ttc ctt cat gga ttc tcc ttt atg 336
 Glu Ala Cys Phe Ala Gln Phe Phe Phe Leu His Gly Phe Ser Phe Met
 100 105 110

gag tct tct gtc ctc ctg gct atg tcc gtt gac tgc tat gtg gcc atc 384
 Glu Ser Ser Val Leu Leu Ala Met Ser Val Asp Cys Tyr Val Ala Ile
 115 120 125

tgc tgt ccc ctc cat tat gcc tcc atc ctc acc aat gaa gtc att ggt 432
 Cys Cys Pro Leu His Tyr Ala Ser Ile Leu Thr Asn Glu Val Ile Gly
 130 135 140

aga act ggg tta gcc atc att tgc tgc tgt gtt ctg gcg gtt ctt ccc 480
 Arg Thr Gly Leu Ala Ile Ile Cys Cys Cys Val Leu Ala Val Leu Pro
 145 150 155 160

tcc ctt ttc tta ctc aag cga ctg cct ttc tgc cac tcc cac ctt ctc 528
 Ser Leu Phe Leu Leu Lys Arg Leu Pro Phe Cys His Ser His Leu Leu
 165 170 175

tct cgc tcc tat tgc ctc cac cag gat atg atc cgc ctg gtc tgt gct 576
 Ser Arg Ser Tyr Cys Leu His Gln Asp Met Ile Arg Leu Val Cys Ala
 180 185 190

gac atc agg ctc aac agc tgg tat gga ttt gct ctt gcc ttg ctc att 624
 Asp Ile Arg Leu Asn Ser Trp Tyr Gly Phe Ala Leu Ala Leu Leu Ile
 195 200 205

att atc gtg gat cct ctg ctc att gtg atc tcc tat aca ctt att ctg 672
 Ile Ile Val Asp Pro Leu Leu Ile Val Ile Ser Tyr Thr Leu Ile Leu
 210 215 220

aaa aat atc ttg ggc aca gcc acc tgg gct gag cga ctc cgt gcc ctc 720
 Lys Asn Ile Leu Gly Thr Ala Thr Trp Ala Glu Arg Leu Arg Ala Leu

225	230	235	240	
aat aac tgc ctg tcc cac att cta gct gtc ctg gtc ctc tac att ccc				768
Asn Asn Cys Leu Ser His Ile Leu Ala Val Leu Val Leu Tyr Ile Pro	245	250	255	
atg gtt ggt gta tct atg act cat cgc ttt gcc aag cat gcc tct cca				816
Met Val Gly Val Ser Met Thr His Arg Phe Ala Lys His Ala Ser Pro	260	265	270	
ctg gtc cat gtt atc atg gcc aat atc tac ctg ctg gca ccc ccg gtg				864
Leu Val His Val Ile Met Ala Asn Ile Tyr Leu Leu Ala Pro Pro Val	275	280	285	
atg aac ccc atc att tac agt gta aag aac aag cag atc caa tgg gga				912
Met Asn Pro Ile Ile Tyr Ser Val Lys Asn Lys Gln Ile Gln Trp Gly	290	295	300	
atg tta aat ttc ctt tcc ctc aaa aat atg cat tca aga tga				954
Met Leu Asn Phe Leu Ser Leu Lys Asn Met His Ser Arg	305	310	315	
<210>	420			
<211>	317			
<212>	PRT			
<213>	Homo Sapiens			
<400>	420			
Met Ser Gln Val Thr Asn Thr Thr Gln Glu Gly Ile Tyr Phe Ile Leu				
1	5	10	15	
Thr Asp Ile Pro Gly Phe Glu Ala Ser His Ile Trp Ile Ser Ile Pro				
	20	25	30	
Val Cys Cys Leu Tyr Thr Ile Ser Ile Met Gly Asn Thr Thr Ile Leu				
	35	40	45	
Thr Val Ile Arg Thr Glu Pro Ser Val His Gln Arg Met Tyr Leu Phe				
	50	55	60	
Leu Ser Met Leu Ala Leu Thr Asp Leu Gly Leu Thr Leu Thr Thr Leu				
65	70	75	80	
Pro Thr Val Met Gln Leu Leu Trp Phe Asn Val Arg Arg Ile Ser Ser				
	85	90	95	
Glu Ala Cys Phe Ala Gln Phe Phe Phe Leu His Gly Phe Ser Phe Met				
	100	105	110	
Glu Ser Ser Val Leu Leu Ala Met Ser Val Asp Cys Tyr Val Ala Ile				
	115	120	125	

Cys Cys Pro Leu His Tyr Ala Ser Ile Leu Thr Asn Glu Val Ile Gly
 130 135 140

Arg Thr Gly Leu Ala Ile Ile Cys Cys Cys Val Leu Ala Val Leu Pro
 145 150 155 160

Ser Leu Phe Leu Leu Lys Arg Leu Pro Phe Cys His Ser His Leu Leu
 165 170 175

Ser Arg Ser Tyr Cys Leu His Gln Asp Met Ile Arg Leu Val Cys Ala
 180 185 190

Asp Ile Arg Leu Asn Ser Trp Tyr Gly Phe Ala Leu Ala Leu Leu Ile
 195 200 205

Ile Ile Val Asp Pro Leu Leu Ile Val Ile Ser Tyr Thr Leu Ile Leu
 210 215 220

Lys Asn Ile Leu Gly Thr Ala Thr Trp Ala Glu Arg Leu Arg Ala Leu
 225 230 235 240

Asn Asn Cys Leu Ser His Ile Leu Ala Val Leu Val Leu Tyr Ile Pro
 245 250 255

Met Val Gly Val Ser Met Thr His Arg Phe Ala Lys His Ala Ser Pro
 260 265 270

Leu Val His Val Ile Met Ala Asn Ile Tyr Leu Leu Ala Pro Pro Val
 275 280 285

Met Asn Pro Ile Ile Tyr Ser Val Lys Asn Lys Gln Ile Gln Trp Gly
 290 295 300

Met Leu Asn Phe Leu Ser Leu Lys Asn Met His Ser Arg
 305 310 315

<210> 421
 <211> 966
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1) .. (963)
 <223>

<400> 421

atg cta aca ctg aat aaa aca gac cta ata cca gct tca ttt att ctg Met Leu Thr Leu Asn Lys Thr Asp Leu Ile Pro Ala Ser Phe Ile Leu 1 5 10 15	48
aat gga gtc cca gga ctg gaa gac aca caa ctc tgg att tcc ttc cca Asn Gly Val Pro Gly Leu Glu Asp Thr Gln Leu Trp Ile Ser Phe Pro 20 25 30	96
ttc tgc tct atg tat gtt gtg gct atg gta ggg aat tgt gga ctc ctc Phe Cys Ser Met Tyr Val Val Ala Met Val Gly Asn Cys Gly Leu Leu 35 40 45	144
tac ctc att cac tat gag gat gcc ctg cac aaa ccc atg tac tac ttc Tyr Leu Ile His Tyr Glu Asp Ala Leu His Lys Pro Met Tyr Tyr Phe 50 55 60	192
ttg gcc atg ctt tcc ttt act gac ctt gtt atg tgc tct agt aca atc Leu Ala Met Leu Ser Phe Thr Asp Leu Val Met Cys Ser Ser Thr Ile 65 70 75 80	240
cct aaa gcc ctc tgc atc ttc tgg ttt cat ctc aag gac att gga ttt Pro Lys Ala Leu Cys Ile Phe Trp Phe His Leu Lys Asp Ile Gly Phe 85 90 95	288
gat gaa tgc ctt gtc cag atg ttc ttc atc cac acc ttc aca ggg atg Asp Glu Cys Leu Val Gln Met Phe Phe Ile His Thr Phe Thr Gly Met 100 105 110	336
gag tct ggg gtg ctt atg ctt atg gcc ctg gat cgc tat gtg gcc atc Glu Ser Gly Val Leu Met Leu Met Ala Leu Asp Arg Tyr Val Ala Ile 115 120 125	384
tgc tac ccc tta cgc tat tca act atc ctc acc aat cct gta att gca Cys Tyr Pro Leu Arg Tyr Ser Thr Ile Leu Thr Asn Pro Val Ile Ala 130 135 140	432
aag gtt ggg act gcc acc ttc ctg aga ggg gta tta ctc att att ccc Lys Val Gly Thr Ala Thr Phe Leu Arg Gly Val Leu Leu Ile Ile Pro 145 150 155 160	480
ttt act ttc ctc acc aag cgc ctg ccc tac tgc aga ggc aat ata ctt Phe Thr Phe Leu Thr Lys Arg Leu Pro Tyr Cys Arg Gly Asn Ile Leu 165 170 175	528
ccc cat acc tac tgt gac cac atg tct gta gcc aaa ttg tcc tgt ggt Pro His Thr Tyr Cys Asp His Met Ser Val Ala Lys Leu Ser Cys Gly 180 185 190	576
aat gtc aag gtc aat gcc atc tat ggt ctg atg gtt gcc ctc ctg att Asn Val Lys Val Asn Ala Ile Tyr Gly Leu Met Val Ala Leu Leu Ile 195 200 205	624
ggg ggc ttt gac ata ctg tgt atc acc atc tcc tat acc atg att ctc Gly Gly Phe Asp Ile Leu Cys Ile Thr Ile Ser Tyr Thr Met Ile Leu 210 215 220	672
cgg gca gtg gtc agc ctc tcc tca gca gat gct cgg cag aag gcc ttt Arg Ala Val Val Ser Leu Ser Ser Ala Asp Ala Arg Gln Lys Ala Phe 225 230 235 240	720
aat acc tgc act gcc cac att tgt gcc att gtt ttc tcc tat act cca	768

Asn Thr Cys Thr Ala His Ile Cys Ala Ile Val Phe Ser Tyr Thr Pro
 245 250 255
 gct ttc ttc tcc ttc ttt tcc cac cgc ttt ggg gaa cac ata atc ccc 816
 Ala Phe Phe Ser Phe Phe Ser His Arg Phe Gly Glu His Ile Ile Pro
 260 265 270
 cct tct tgc cac atc att gta gcc aat att tat ctg ctc cta cca ccc 864
 Pro Ser Cys His Ile Ile Val Ala Asn Ile Tyr Leu Leu Leu Pro Pro
 275 280 285
 act atg aac cct att gtc tat ggg gtg aaa acc aaa cag ata cga gac 912
 Thr Met Asn Pro Ile Val Tyr Gly Val Lys Thr Lys Gln Ile Arg Asp
 290 295 300
 tgt gtc ata agg atc ctt tca ggt tct aag gat acc aaa tcc tac agc 960
 Cys Val Ile Arg Ile Leu Ser Gly Ser Lys Asp Thr Lys Ser Tyr Ser
 305 310 315 320
 atg tga 966
 Met

<210> 422
 <211> 321
 <212> PRT
 <213> Homo Sapiens

<400> 422

Met Leu Thr Leu Asn Lys Thr Asp Leu Ile Pro Ala Ser Phe Ile Leu
 1 5 10 15
 Asn Gly Val Pro Gly Leu Glu Asp Thr Gln Leu Trp Ile Ser Phe Pro
 20 25 30
 Phe Cys Ser Met Tyr Val Val Ala Met Val Gly Asn Cys Gly Leu Leu
 35 40 45
 Tyr Leu Ile His Tyr Glu Asp Ala Leu His Lys Pro Met Tyr Tyr Phe
 50 55 60
 Leu Ala Met Leu Ser Phe Thr Asp Leu Val Met Cys Ser Ser Thr Ile
 65 70 75 80
 Pro Lys Ala Leu Cys Ile Phe Trp Phe His Leu Lys Asp Ile Gly Phe
 85 90 95
 Asp Glu Cys Leu Val Gln Met Phe Phe Ile His Thr Phe Thr Gly Met
 100 105 110
 Glu Ser Gly Val Leu Met Leu Met Ala Leu Asp Arg Tyr Val Ala Ile
 115 120 125

Cys Tyr Pro Leu Arg Tyr Ser Thr Ile Leu Thr Asn Pro Val Ile Ala
 130 135 140

Lys Val Gly Thr Ala Thr Phe Leu Arg Gly Val Leu Leu Ile Ile Pro
 145 150 155 160

Phe Thr Phe Leu Thr Lys Arg Leu Pro Tyr Cys Arg Gly Asn Ile Leu
 165 170 175

Pro His Thr Tyr Cys Asp His Met Ser Val Ala Lys Leu Ser Cys Gly
 180 185 190

Asn Val Lys Val Asn Ala Ile Tyr Gly Leu Met Val Ala Leu Leu Ile
 195 200 205

Gly Gly Phe Asp Ile Leu Cys Ile Thr Ile Ser Tyr Thr Met Ile Leu
 210 215 220

Arg Ala Val Val Ser Leu Ser Ser Ala Asp Ala Arg Gln Lys Ala Phe
 225 230 235 240

Asn Thr Cys Thr Ala His Ile Cys Ala Ile Val Phe Ser Tyr Thr Pro
 245 250 255

Ala Phe Phe Ser Phe Phe Ser His Arg Phe Gly Glu His Ile Ile Pro
 260 265 270

Pro Ser Cys His Ile Ile Val Ala Asn Ile Tyr Leu Leu Leu Pro Pro
 275 280 285

Thr Met Asn Pro Ile Val Tyr Gly Val Lys Thr Lys Gln Ile Arg Asp
 290 295 300

Cys Val Ile Arg Ile Leu Ser Gly Ser Lys Asp Thr Lys Ser Tyr Ser
 305 310 315 320

Met

<210> 423
 <211> 966
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS

<222> (1) .. (963)

<223>

<400> 423

atg	gaa	tct	cct	aat	cac	act	gat	gtt	gac	cct	tct	gtc	ttc	ttc	ctc	48
Met	Glu	Ser	Pro	Asn	His	Thr	Asp	Val	Asp	Pro	Ser	Val	Phe	Phe	Leu	
1				5					10					15		

ctg	ggc	atc	cca	ggc	ctg	gaa	caa	ttt	cat	ttg	tgg	ctc	tca	ctc	cct	96
Leu	Gly	Ile	Pro	Gly	Leu	Glu	Gln	Phe	His	Leu	Trp	Leu	Ser	Leu	Pro	
			20					25					30			

gtg	tgt	ggc	tta	ggc	aca	gcc	aca	att	gtg	ggc	aat	ata	act	att	ctg	144
Val	Cys	Gly	Leu	Gly	Thr	Ala	Thr	Ile	Val	Gly	Asn	Ile	Thr	Ile	Leu	
		35					40					45				

gtt	gtt	gtt	gcc	act	gaa	cca	gtc	ttg	cac	aag	cct	gtg	tac	ctt	ttt	192
Val	Val	Val	Ala	Thr	Glu	Pro	Val	Leu	His	Lys	Pro	Val	Tyr	Leu	Phe	
		50				55					60					

ctg	tgc	atg	ctc	tca	acc	atc	gac	ttg	gct	gcc	tct	gtc	tcc	aca	gtt	240
Leu	Cys	Met	Leu	Ser	Thr	Ile	Asp	Leu	Ala	Ala	Ser	Val	Ser	Thr	Val	
65					70					75					80	

ccc	aag	cta	ctg	gct	atc	ttc	tgg	tgt	gga	gcc	gga	cat	ata	tct	gcc	288
Pro	Lys	Leu	Leu	Ala	Ile	Phe	Trp	Cys	Gly	Ala	Gly	His	Ile	Ser	Ala	
				85					90					95		

tct	gcc	tgc	ctg	gca	cag	atg	ttc	ttc	att	cat	gcc	ttc	tgc	atg	atg	336
Ser	Ala	Cys	Leu	Ala	Gln	Met	Phe	Phe	Ile	His	Ala	Phe	Cys	Met	Met	
			100					105						110		

gag	tcc	act	gtg	cta	ctg	gcc	atg	gcc	ttt	gat	cgc	tac	gtg	gcc	atc	384
Glu	Ser	Thr	Val	Leu	Leu	Ala	Met	Ala	Phe	Asp	Arg	Tyr	Val	Ala	Ile	
		115					120					125				

tgc	cac	cca	ctc	cgc	tat	gcc	aca	atc	ctc	act	gac	acc	atc	att	gcc	432
Cys	His	Pro	Leu	Arg	Tyr	Ala	Thr	Ile	Leu	Thr	Asp	Thr	Ile	Ile	Ala	
	130					135					140					

cac	ata	ggg	gtg	gca	gct	gta	gtg	cga	ggc	tcc	ctg	ctc	atg	ctc	cca	480
His	Ile	Gly	Val	Ala	Ala	Val	Val	Arg	Gly	Ser	Leu	Leu	Met	Leu	Pro	
145					150					155					160	

tgt	ccc	ttc	ctt	att	ggg	cgt	ttg	aac	ttc	tgc	caa	agc	cat	gtg	atc	528
Cys	Pro	Phe	Leu	Ile	Gly	Arg	Leu	Asn	Phe	Cys	Gln	Ser	His	Val	Ile	
				165					170					175		

cta	cac	acg	tac	tgt	gag	cac	atg	gct	gtg	gtg	aag	ctg	gcc	tgt	gga	576
Leu	His	Thr	Tyr	Cys	Glu	His	Met	Ala	Val	Val	Lys	Leu	Ala	Cys	Gly	
			180					185					190			

gac	acc	agg	cct	aac	cgt	gtg	tat	ggg	ctg	aca	gct	gca	ctg	ttg	gtc	624
Asp	Thr	Arg	Pro	Asn	Arg	Val	Tyr	Gly	Leu	Thr	Ala	Ala	Leu	Leu	Val	
		195					200					205				

att	ggg	gtt	gac	ttg	ttt	tgc	att	ggc	ctc	tcc	tat	gcc	cta	agt	gca	672
Ile	Gly	Val	Asp	Leu	Phe	Cys	Ile	Gly	Leu	Ser	Tyr	Ala	Leu	Ser	Ala	
	210					215					220					

caa gct gtc ctt cgc ctc tca tcc cat gaa gct cgg tcc aag gcc cta 720
 Gln Ala Val Leu Arg Leu Ser Ser His Glu Ala Arg Ser Lys Ala Leu
 225 230 235 240
 ggg acc tgt ggt tcc cat gtc tgt gtc atc ctc atc tct tat aca cca 768
 Gly Thr Cys Gly Ser His Val Cys Val Ile Leu Ile Ser Tyr Thr Pro
 245 250 255
 gcc ctc ttc tcc ttt ttt aca cac cgc ttt ggc cat cac gtt cca gtc 816
 Ala Leu Phe Ser Phe Phe Thr His Arg Phe Gly His His Val Pro Val
 260 265 270
 cat att cac att ctt ttg gcc aat gtt tat ctg ctt ttg cca cct gct 864
 His Ile His Ile Leu Leu Ala Asn Val Tyr Leu Leu Leu Pro Pro Ala
 275 280 285
 ctt aat cct gtg gta tat gga gtt aag acc aaa cag atc cgt aaa aga 912
 Leu Asn Pro Val Val Tyr Gly Val Lys Thr Lys Gln Ile Arg Lys Arg
 290 295 300
 gtt gtc agg gtg ttt caa agt ggg cag gga atg ggc atc aag gca tct 960
 Val Val Arg Val Phe Gln Ser Gly Gln Gly Met Gly Ile Lys Ala Ser
 305 310 315 320
 gag tga 966
 Glu

<210> 424
 <211> 321
 <212> PRT
 <213> Homo Sapiens

<400> 424

Met Glu Ser Pro Asn His Thr Asp Val Asp Pro Ser Val Phe Phe Leu
 1 5 10 15
 Leu Gly Ile Pro Gly Leu Glu Gln Phe His Leu Trp Leu Ser Leu Pro
 20 25 30
 Val Cys Gly Leu Gly Thr Ala Thr Ile Val Gly Asn Ile Thr Ile Leu
 35 40 45
 Val Val Val Ala Thr Glu Pro Val Leu His Lys Pro Val Tyr Leu Phe
 50 55 60
 Leu Cys Met Leu Ser Thr Ile Asp Leu Ala Ala Ser Val Ser Thr Val
 65 70 75 80
 Pro Lys Leu Leu Ala Ile Phe Trp Cys Gly Ala Gly His Ile Ser Ala
 85 90 95
 Ser Ala Cys Leu Ala Gln Met Phe Phe Ile His Ala Phe Cys Met Met

<210>	425
<211>	975

<212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1)..(972)
 <223>

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<400> 425
atg aat cat atg tct gca tct ctc aaa atc tcc aat agc tcc aaa ttc      48
Met Asn His Met Ser Ala Ser Leu Lys Ile Ser Asn Ser Ser Lys Phe
1                               5                               10                               15

cag gtc tct gag ttc atc ctg ctg gga ttc ccg ggc att cac agc tgg      96
Gln Val Ser Glu Phe Ile Leu Leu Gly Phe Pro Gly Ile His Ser Trp
                20                               25                               30

caa cac tgg cta tct ctg ccc ctg gca cta ctg tat ctc tca gca ctt      144
Gln His Trp Leu Ser Leu Pro Leu Ala Leu Leu Tyr Leu Ser Ala Leu
                35                               40                               45

gct gca aac acc ctc atc ctc atc atc atc tgg cag aac cct tct tta      192
Ala Ala Asn Thr Leu Ile Leu Ile Ile Ile Trp Gln Asn Pro Ser Leu
                50                               55                               60

cag cag ccc atg tat att ttc ctt ggc atc ctc tgt atg gta gac atg      240
Gln Gln Pro Met Tyr Ile Phe Leu Gly Ile Leu Cys Met Val Asp Met
65                               70                               75                               80

ggg ctg gcc act act atc atc cct aag atc ctg gcc atc ttc tgg ttt      288
Gly Leu Ala Thr Thr Ile Ile Pro Lys Ile Leu Ala Ile Phe Trp Phe
                85                               90                               95

gat gcc aag gtt att agc ctc cct gag tgc ttt gct cag att tat gcc      336
Asp Ala Lys Val Ile Ser Leu Pro Glu Cys Phe Ala Gln Ile Tyr Ala
                100                               105                               110

att cac ttc ttt gtg ggc atg gag tct ggt atc cta ctc tgc atg gct      384
Ile His Phe Phe Val Gly Met Glu Ser Gly Ile Leu Leu Cys Met Ala
                115                               120                               125

ttt gat aga tat gtg gct att tgt cac cct ctt cgc tat cca tca att      432
Phe Asp Arg Tyr Val Ala Ile Cys His Pro Leu Arg Tyr Pro Ser Ile
                130                               135                               140

gtc acc agt tcc tta atc tta aaa gct acc ctg ttc atg gtg ctg aga      480
Val Thr Ser Ser Leu Ile Leu Lys Ala Thr Leu Phe Met Val Leu Arg
145                               150                               155                               160

aat ggc tta ttt gtc act cca gtg cct gtg ctt gca gca cag cgt gat      528
Asn Gly Leu Phe Val Thr Pro Val Pro Val Leu Ala Ala Gln Arg Asp
                165                               170                               175

tat tgc tcc aag aat gaa att gaa cac tgc ctg tgc tct aac ctt ggg      576
Tyr Cys Ser Lys Asn Glu Ile Glu His Cys Leu Cys Ser Asn Leu Gly
                180                               185                               190

gtc aca agc ctg gct tgt gat gac agg agg cca aac agc att tgc cag      624
Val Thr Ser Leu Ala Cys Asp Asp Arg Arg Pro Asn Ser Ile Cys Gln
                195                               200                               205

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ttg gtt ctg gca tgg ctt gga atg ggg agt gat cta agt ctt att ata 672
 Leu Val Leu Ala Trp Leu Gly Met Gly Ser Asp Leu Ser Leu Ile Ile
 210 215 220
 ctg tca tat att ttg att ctg tac tct gta ctt aga ctg aac tca gct 720
 Leu Ser Tyr Ile Leu Ile Leu Tyr Ser Val Leu Arg Leu Asn Ser Ala
 225 230 235 240
 gaa gct gca gcc aag gcc ctg agc act tgt agt tca cat ctc acc ctc 768
 Glu Ala Ala Ala Lys Ala Leu Ser Thr Cys Ser Ser His Leu Thr Leu
 245 250 255
 atc ctt ttc ttt tac act att gtt gta gtg att tca gtg act cat ctg 816
 Ile Leu Phe Phe Tyr Thr Ile Val Val Val Ile Ser Val Thr His Leu
 260 265 270
 aca gag atg aag gct act ttg att cca gtt cta ctt aat gtg ttg cac 864
 Thr Glu Met Lys Ala Thr Leu Ile Pro Val Leu Leu Asn Val Leu His
 275 280 285
 aac atc atc ccc cct tcc ctc aac cct aca gtt tat gca ctt cag acc 912
 Asn Ile Ile Pro Pro Ser Leu Asn Pro Thr Val Tyr Ala Leu Gln Thr
 290 295 300
 aaa gaa ctt agg gca gcc ttc caa aag gtg ctg ttt gcc ctt aca aaa 960
 Lys Glu Leu Arg Ala Ala Phe Gln Lys Val Leu Phe Ala Leu Thr Lys
 305 310 315 320
 gaa ata aga tct tag 975
 Glu Ile Arg Ser

<210> 426
 <211> 324
 <212> PRT
 <213> Homo Sapiens

<400> 426

Met Asn His Met Ser Ala Ser Leu Lys Ile Ser Asn Ser Ser Lys Phe
 1 5 10 15
 Gln Val Ser Glu Phe Ile Leu Leu Gly Phe Pro Gly Ile His Ser Trp
 20 25 30
 Gln His Trp Leu Ser Leu Pro Leu Ala Leu Leu Tyr Leu Ser Ala Leu
 35 40 45
 Ala Ala Asn Thr Leu Ile Leu Ile Ile Ile Trp Gln Asn Pro Ser Leu
 50 55 60
 Gln Gln Pro Met Tyr Ile Phe Leu Gly Ile Leu Cys Met Val Asp Met
 65 70 75 80

Gly Leu Ala Thr Thr Ile Ile Pro Lys Ile Leu Ala Ile Phe Trp Phe
85 90 95

Asp Ala Lys Val Ile Ser Leu Pro Glu Cys Phe Ala Gln Ile Tyr Ala
100 105 110

Ile His Phe Phe Val Gly Met Glu Ser Gly Ile Leu Leu Cys Met Ala
115 120 125

Phe Asp Arg Tyr Val Ala Ile Cys His Pro Leu Arg Tyr Pro Ser Ile
130 135 140

Val Thr Ser Ser Leu Ile Leu Lys Ala Thr Leu Phe Met Val Leu Arg
145 150 155 160

Asn Gly Leu Phe Val Thr Pro Val Pro Val Leu Ala Ala Gln Arg Asp
165 170 175

Tyr Cys Ser Lys Asn Glu Ile Glu His Cys Leu Cys Ser Asn Leu Gly
180 185 190

Val Thr Ser Leu Ala Cys Asp Asp Arg Arg Pro Asn Ser Ile Cys Gln
195 200 205

Leu Val Leu Ala Trp Leu Gly Met Gly Ser Asp Leu Ser Leu Ile Ile
210 215 220

Leu Ser Tyr Ile Leu Ile Leu Tyr Ser Val Leu Arg Leu Asn Ser Ala
225 230 235 240

Glu Ala Ala Ala Lys Ala Leu Ser Thr Cys Ser Ser His Leu Thr Leu
245 250 255

Ile Leu Phe Phe Tyr Thr Ile Val Val Val Ile Ser Val Thr His Leu
260 265 270

Thr Glu Met Lys Ala Thr Leu Ile Pro Val Leu Leu Asn Val Leu His
275 280 285

Asn Ile Ile Pro Pro Ser Leu Asn Pro Thr Val Tyr Ala Leu Gln Thr
290 295 300

Lys Glu Leu Arg Ala Ala Phe Gln Lys Val Leu Phe Ala Leu Thr Lys
305 310 315 320

Glu Ile Arg Ser

<210> 427
 <211> 900
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1)..(897)
 <223>

<400> 427
 atg gga ttc cct ggc att cac agt tgg cag cac tgg ctc tcc ctg ccc 48
 Met Gly Phe Pro Gly Ile His Ser Trp Gln His Trp Leu Ser Leu Pro
 1 5 10 15
 ctg gct ctg ctc tac ctc tta gct ctc agt gcc aac atc ctt atc ctg 96
 Leu Ala Leu Leu Tyr Leu Leu Ala Leu Ser Ala Asn Ile Leu Ile Leu
 20 25 30
 atc atc atc aac aaa gag gca gca ctg cac cag cct atg tac tat ttc 144
 Ile Ile Ile Asn Lys Glu Ala Ala Leu His Gln Pro Met Tyr Tyr Phe
 35 40 45
 ctg ggc atc ttg gct atg gca gac ata ggc ctg gct acc acc atc atg 192
 Leu Gly Ile Leu Ala Met Ala Asp Ile Gly Leu Ala Thr Thr Ile Met
 50 55 60
 cct aag att ttg gcc atc tta tgg ttc aat gct aag acc atc agt ctc 240
 Pro Lys Ile Leu Ala Ile Leu Trp Phe Asn Ala Lys Thr Ile Ser Leu
 65 70 75 80
 ctg gag tgc ttt gct cag atg tat gcc ata cat tgc ttt gtg gcc atg 288
 Leu Glu Cys Phe Ala Gln Met Tyr Ala Ile His Cys Phe Val Ala Met
 85 90 95
 gaa tca agt acc ttt gtc tgc atg gct att gat aga tat gta gcc att 336
 Glu Ser Ser Thr Phe Val Cys Met Ala Ile Asp Arg Tyr Val Ala Ile
 100 105 110
 tgt cga ccg cta cga tat cca tca atc atc act gaa tct ttt gtt ttc 384
 Cys Arg Pro Leu Arg Tyr Pro Ser Ile Ile Thr Glu Ser Phe Val Phe
 115 120 125
 aaa gca aat ggg ttc atg gca ctg aga aac agc ctg tgt ctc atc tca 432
 Lys Ala Asn Gly Phe Met Ala Leu Arg Asn Ser Leu Cys Leu Ile Ser
 130 135 140
 gtg cct ctg ttg gct gcc cag agg cat tac tgc tcc cag aat caa att 480
 Val Pro Leu Leu Ala Ala Gln Arg His Tyr Cys Ser Gln Asn Gln Ile
 145 150 155 160
 gag cac tgt ctt tgt tct aac ctt gga gtc act agc cta tct tgt gat 528
 Glu His Cys Leu Cys Ser Asn Leu Gly Val Thr Ser Leu Ser Cys Asp
 165 170 175
 gat cga aga atc aat agc att aac cag gtc ctt ttg gct tgg aca ctc 576
 Asp Arg Arg Ile Asn Ser Ile Asn Gln Val Leu Leu Ala Trp Thr Leu

180	185	190	
atg gga agt gac ctg ggt ttg att att tta tca tat gct cta ata ctt			624
Met Gly Ser Asp Leu Gly Leu Ile Ile Leu Ser Tyr Ala Leu Ile Leu			
195	200	205	
tac tct gtc ctg aag ctg aac tct cca gaa gct gca tcc aag gcc tta			672
Tyr Ser Val Leu Lys Leu Asn Ser Pro Glu Ala Ala Ser Lys Ala Leu			
210	215	220	
agt acc tgc acc tcc cac ctg atc tta atc ctt ttc ttc tac aca gtc			720
Ser Thr Cys Thr Ser His Leu Ile Leu Ile Leu Phe Phe Tyr Thr Val			
225	230	235	240
atc att gtg att tcc att act cgt agt aca gga atg aga gtt ccc ctt			768
Ile Ile Val Ile Ser Ile Thr Arg Ser Thr Gly Met Arg Val Pro Leu			
	245	250	255
att cca gtt cta ctt aat gtg cta cac aat gtc att ccc cct gcc ctg			816
Ile Pro Val Leu Leu Asn Val Leu His Asn Val Ile Pro Pro Ala Leu			
	260	265	270
aac ccc atg gta tat gca ctg aag aac aag gaa ctg agg caa ggc tta			864
Asn Pro Met Val Tyr Ala Leu Lys Asn Lys Glu Leu Arg Gln Gly Leu			
	275	280	285
tac aag gta ctt aga ctg gga gtg aag ggc acc tga			900
Tyr Lys Val Leu Arg Leu Gly Val Lys Gly Thr			
290	295		

<210> 428

<211> 299

<212> PRT

<213> Homo Sapiens

<400> 428

Met Gly Phe Pro Gly Ile His Ser Trp Gln His Trp Leu Ser Leu Pro
1 5 10 15

Leu Ala Leu Leu Tyr Leu Leu Ala Leu Ser Ala Asn Ile Leu Ile Leu
20 25 30

Ile Ile Ile Asn Lys Glu Ala Ala Leu His Gln Pro Met Tyr Tyr Phe
35 40 45

Leu Gly Ile Leu Ala Met Ala Asp Ile Gly Leu Ala Thr Thr Ile Met
50 55 60

Pro Lys Ile Leu Ala Ile Leu Trp Phe Asn Ala Lys Thr Ile Ser Leu
65 70 75 80

Leu Glu Cys Phe Ala Gln Met Tyr Ala Ile His Cys Phe Val Ala Met
85 90 95

Glu Ser Ser Thr Phe Val Cys Met Ala Ile Asp Arg Tyr Val Ala Ile
 100 105 110

Cys Arg Pro Leu Arg Tyr Pro Ser Ile Ile Thr Glu Ser Phe Val Phe
 115 120 125

Lys Ala Asn Gly Phe Met Ala Leu Arg Asn Ser Leu Cys Leu Ile Ser
 130 135 140

Val Pro Leu Leu Ala Ala Gln Arg His Tyr Cys Ser Gln Asn Gln Ile
 145 150 155 160

Glu His Cys Leu Cys Ser Asn Leu Gly Val Thr Ser Leu Ser Cys Asp
 165 170 175

Asp Arg Arg Ile Asn Ser Ile Asn Gln Val Leu Leu Ala Trp Thr Leu
 180 185 190

Met Gly Ser Asp Leu Gly Leu Ile Ile Leu Ser Tyr Ala Leu Ile Leu
 195 200 205

Tyr Ser Val Leu Lys Leu Asn Ser Pro Glu Ala Ala Ser Lys Ala Leu
 210 215 220

Ser Thr Cys Thr Ser His Leu Ile Leu Ile Leu Phe Phe Tyr Thr Val
 225 230 235 240

Ile Ile Val Ile Ser Ile Thr Arg Ser Thr Gly Met Arg Val Pro Leu
 245 250 255

Ile Pro Val Leu Leu Asn Val Leu His Asn Val Ile Pro Pro Ala Leu
 260 265 270

Asn Pro Met Val Tyr Ala Leu Lys Asn Lys Glu Leu Arg Gln Gly Leu
 275 280 285

Tyr Lys Val Leu Arg Leu Gly Val Lys Gly Thr
 290 295

<210> 429
 <211> 978
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1) .. (975)

<223>

<400> 429

atg ttc ctt ccc aat gac acc cag ttt cac ccc tcc tcc ttc ctg ttg	48
Met Phe Leu Pro Asn Asp Thr Gln Phe His Pro Ser Ser Phe Leu Leu	
1 5 10 15	
ctg ggg atc cca gga cta gaa aca ctt cac atc tgg atc ggc ttt ccc	96
Leu Gly Ile Pro Gly Leu Glu Thr Leu His Ile Trp Ile Gly Phe Pro	
20 25 30	
ttc tgt gct gtg tac atg atc gca ctc ata ggg aac ttc act att cta	144
Phe Cys Ala Val Tyr Met Ile Ala Leu Ile Gly Asn Phe Thr Ile Leu	
35 40 45	
ctt gtg atc aag act gac agc agc cta cac cag ccc atg ttc tac ttc	192
Leu Val Ile Lys Thr Asp Ser Ser Leu His Gln Pro Met Phe Tyr Phe	
50 55 60	
ctg gcc atg ttg gcc acc act gat gtg ggt ctc tca aca gct acc atc	240
Leu Ala Met Leu Ala Thr Thr Asp Val Gly Leu Ser Thr Ala Thr Ile	
65 70 75 80	
cct aag atg ctt gga atc ttc tgg atc aac ctc aga ggg atc atc ttt	288
Pro Lys Met Leu Gly Ile Phe Trp Ile Asn Leu Arg Gly Ile Ile Phe	
85 90 95	
gaa gcc tgc ctc acc cag atg ttt ttt atc cac aac ttc aca ctt atg	336
Glu Ala Cys Leu Thr Gln Met Phe Phe Ile His Asn Phe Thr Leu Met	
100 105 110	
gag tca gca gtc ctt gtg gca atg gct tat gac agc tat gtg gcc atc	384
Glu Ser Ala Val Leu Val Ala Met Ala Tyr Asp Ser Tyr Val Ala Ile	
115 120 125	
tgc aat cca ctc caa tat agc gcc atc ctc acc aac aag gtt gtt tct	432
Cys Asn Pro Leu Gln Tyr Ser Ala Ile Leu Thr Asn Lys Val Val Ser	
130 135 140	
gtg att ggt ctt ggt gtg ttt gtg agg gct tta att ttc gtc att ccc	480
Val Ile Gly Leu Gly Val Phe Val Arg Ala Leu Ile Phe Val Ile Pro	
145 150 155 160	
tct ata ctt ctt ata ttg cgg ttg ccc ttc tgt ggg aat cat gta att	528
Ser Ile Leu Leu Ile Leu Arg Leu Pro Phe Cys Gly Asn His Val Ile	
165 170 175	
ccc cac acc tac tgt gag cac atg ggt ctt gct cat cta tct tgt gcc	576
Pro His Thr Tyr Cys Glu His Met Gly Leu Ala His Leu Ser Cys Ala	
180 185 190	
agc atc aaa atc aat att att tat ggt tta tgt gcc att tgt aat ctg	624
Ser Ile Lys Ile Asn Ile Ile Tyr Gly Leu Cys Ala Ile Cys Asn Leu	
195 200 205	
gtg ttt gac atc aca gtc att gcc ctc tct tat gtg cat att ctt tgt	672
Val Phe Asp Ile Thr Val Ile Ala Leu Ser Tyr Val His Ile Leu Cys	
210 215 220	
gct gtt ttc cgt ctt cct act cat gag ccc cga ctc aag tcc ctc agc	720

Ala Val Phe Arg Leu Pro Thr His Glu Pro Arg Leu Lys Ser Leu Ser
 225 230 235 240

aca tgt ggt tca cat gtg tgt gta atc ctt gcc ttc tat aca cca gcc 768
 Thr Cys Gly Ser His Val Cys Val Ile Leu Ala Phe Tyr Thr Pro Ala
 245 250 255

ctc ttt tcc ttt atg act cat tgc ttt ggc cga aat gtg ccc cgc tat 816
 Leu Phe Ser Phe Met Thr His Cys Phe Gly Arg Asn Val Pro Arg Tyr
 260 265 270

atc cat ata ctc cta gcc aat ctc tat gtt gtg gtg cca cca atg ctc 864
 Ile His Ile Leu Leu Ala Asn Leu Tyr Val Val Val Pro Pro Met Leu
 275 280 285

aat cct gtc ata tat gga gtc aga acc aag cag atc tat aaa tgt gta 912
 Asn Pro Val Ile Tyr Gly Val Arg Thr Lys Gln Ile Tyr Lys Cys Val
 290 295 300

aag aaa ata tta ttg cag gaa caa gga atg gaa aag gaa gag tac cta 960
 Lys Lys Ile Leu Leu Gln Glu Gln Gly Met Glu Lys Glu Glu Tyr Leu
 305 310 315 320

ata cat acg agg ttc tga 978
 Ile His Thr Arg Phe
 325

<210> 430
 <211> 325
 <212> PRT
 <213> Homo Sapiens

<400> 430

Met Phe Leu Pro Asn Asp Thr Gln Phe His Pro Ser Ser Phe Leu Leu
 1 5 10 15

Leu Gly Ile Pro Gly Leu Glu Thr Leu His Ile Trp Ile Gly Phe Pro
 20 25 30

Phe Cys Ala Val Tyr Met Ile Ala Leu Ile Gly Asn Phe Thr Ile Leu
 35 40 45

Leu Val Ile Lys Thr Asp Ser Ser Leu His Gln Pro Met Phe Tyr Phe
 50 55 60

Leu Ala Met Leu Ala Thr Thr Asp Val Gly Leu Ser Thr Ala Thr Ile
 65 70 75 80

Pro Lys Met Leu Gly Ile Phe Trp Ile Asn Leu Arg Gly Ile Ile Phe
 85 90 95

Glu Ala Cys Leu Thr Gln Met Phe Phe Ile His Asn Phe Thr Leu Met
 100 105 110

Glu Ser Ala Val Leu Val Ala Met Ala Tyr Asp Ser Tyr Val Ala Ile
 115 120 125

Cys Asn Pro Leu Gln Tyr Ser Ala Ile Leu Thr Asn Lys Val Val Ser
 130 135 140

Val Ile Gly Leu Gly Val Phe Val Arg Ala Leu Ile Phe Val Ile Pro
 145 150 155 160

Ser Ile Leu Leu Ile Leu Arg Leu Pro Phe Cys Gly Asn His Val Ile
 165 170 175

Pro His Thr Tyr Cys Glu His Met Gly Leu Ala His Leu Ser Cys Ala
 180 185 190

Ser Ile Lys Ile Asn Ile Ile Tyr Gly Leu Cys Ala Ile Cys Asn Leu
 195 200 205

Val Phe Asp Ile Thr Val Ile Ala Leu Ser Tyr Val His Ile Leu Cys
 210 215 220

Ala Val Phe Arg Leu Pro Thr His Glu Pro Arg Leu Lys Ser Leu Ser
 225 230 235 240

Thr Cys Gly Ser His Val Cys Val Ile Leu Ala Phe Tyr Thr Pro Ala
 245 250 255

Leu Phe Ser Phe Met Thr His Cys Phe Gly Arg Asn Val Pro Arg Tyr
 260 265 270

Ile His Ile Leu Leu Ala Asn Leu Tyr Val Val Val Pro Pro Met Leu
 275 280 285

Asn Pro Val Ile Tyr Gly Val Arg Thr Lys Gln Ile Tyr Lys Cys Val
 290 295 300

Lys Lys Ile Leu Leu Gln Glu Gln Gly Met Glu Lys Glu Glu Tyr Leu
 305 310 315 320

Ile His Thr Arg Phe
 325

<210> 431

<211> 927

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1) .. (924)

<223>

<400> 431

atg	aat	acc	act	cta	ttt	cat	cct	tac	tct	ttc	ctt	ctt	ctg	gga	att	48.
Met	Asn	Thr	Thr	Leu	Phe	His	Pro	Tyr	Ser	Phe	Leu	Leu	Leu	Gly	Ile	
1				5					10					15		

cct	ggg	ctg	gaa	agt	atg	cat	ctc	tgg	gtt	ggg	ttt	cct	ttc	ttt	gct	96
Pro	Gly	Leu	Glu	Ser	Met	His	Leu	Trp	Val	Gly	Phe	Pro	Phe	Phe	Ala	
		20						25					30			

gtg	ttc	ctg	aca	gct	gtc	ctt	ggg	aat	atc	acc	atc	ctt	ttt	gtg	att	144
Val	Phe	Leu	Thr	Ala	Val	Leu	Gly	Asn	Ile	Thr	Ile	Leu	Phe	Val	Ile	
		35					40					45				

cag	act	gac	agt	agt	ctc	cat	cat	ccc	atg	ttc	tac	ttc	ctg	gcc	att	192
Gln	Thr	Asp	Ser	Ser	Leu	His	His	Pro	Met	Phe	Tyr	Phe	Leu	Ala	Ile	
	50					55					60					

ctg	tca	tct	att	gac	ccg	ggc	ctg	tct	aca	tcc	acc	atc	cct	aaa	atg	240
Leu	Ser	Ser	Ile	Asp	Pro	Gly	Leu	Ser	Thr	Ser	Thr	Ile	Pro	Lys	Met	
65					70					75				80		

ctt	ggc	acc	ttc	tgg	ttt	acc	ctg	aga	gaa	atc	tcc	ttt	gaa	gga	tgc	288
Leu	Gly	Thr	Phe	Trp	Phe	Thr	Leu	Arg	Glu	Ile	Ser	Phe	Glu	Gly	Cys	
			85					90						95		

ctt	acc	cag	atg	ttc	ttc	atc	cac	ctg	tgc	act	ggc	atg	gaa	tca	gct	336
Leu	Thr	Gln	Met	Phe	Phe	Ile	His	Leu	Cys	Thr	Gly	Met	Glu	Ser	Ala	
		100						105					110			

gtg	ctt	gtg	gcc	atg	gcc	tat	gat	tgc	tat	gtg	gcc	atc	tgt	gac	cct	384
Val	Leu	Val	Ala	Met	Ala	Tyr	Asp	Cys	Tyr	Val	Ala	Ile	Cys	Asp	Pro	
		115					120					125				

ctt	tgc	tac	acg	ttg	gtg	ctg	aca	aac	aag	gtg	gtg	tca	gtt	atg	gca	432
Leu	Cys	Tyr	Thr	Leu	Val	Leu	Thr	Asn	Lys	Val	Val	Ser	Val	Met	Ala	
	130					135					140					

ctg	gcc	atc	ttt	ctg	aga	ccc	tta	gtc	ttt	gtc	ata	ccc	ttt	gtt	cta	480
Leu	Ala	Ile	Phe	Leu	Arg	Pro	Leu	Val	Phe	Val	Ile	Pro	Phe	Val	Leu	
145					150					155					160	

ttt	atc	cta	agg	ctt	cca	ttt	tgt	gga	cac	caa	att	att	cct	cat	act	528
Phe	Ile	Leu	Arg	Leu	Pro	Phe	Cys	Gly	His	Gln	Ile	Ile	Pro	His	Thr	
			165					170						175		

tat	ggg	gag	cac	atg	ggc	att	gcc	cgc	ctg	tct	tgt	gcc	agc	atc	agg	576
Tyr	Gly	Glu	His	Met	Gly	Ile	Ala	Arg	Leu	Ser	Cys	Ala	Ser	Ile	Arg	
		180						185					190			

gtt	aac	atc	atc	tat	ggc	tta	tgt	gcc	atc	tct	atc	ctg	gtc	ttt	gac	624
Val	Asn	Ile	Ile	Tyr	Gly	Leu	Cys	Ala	Ile	Ser	Ile	Leu	Val	Phe	Asp	
		195				200						205				

atc ata gca att gtc att tcc tat gta cag atc ctt tgt gct gta ttt 672
 Ile Ile Ala Ile Val Ile Ser Tyr Val Gln Ile Leu Cys Ala Val Phe
 210 215 220
 cta ctc tct tca cat gat gca cga ctc aag gca ttc agc acc tgt ggc 720
 Leu Leu Ser Ser His Asp Ala Arg Leu Lys Ala Phe Ser Thr Cys Gly
 225 230 235 240
 tct cat gtg tgt gtc atg ttg act ttc tat atg cct gca ttt ttc tca 768
 Ser His Val Cys Val Met Leu Thr Phe Tyr Met Pro Ala Phe Phe Ser
 245 250 255
 ttc atg acc cat agg ttt ggt cgg aat ata cct cac ttt atc cac att 816
 Phe Met Thr His Arg Phe Gly Arg Asn Ile Pro His Phe Ile His Ile
 260 265 270
 ctt ctg gct aat ttc tat gta gtc att cca cct gct ctc aac tct gta 864
 Leu Leu Ala Asn Phe Tyr Val Val Ile Pro Pro Ala Leu Asn Ser Val
 275 280 285
 att tat ggt gtc aga acc aaa cag att aga gca caa gtg ctg aaa atg 912
 Ile Tyr Gly Val Arg Thr Lys Gln Ile Arg Ala Gln Val Leu Lys Met
 290 295 300
 ttt ttc aat aaa taa 927
 Phe Phe Asn Lys
 305

<210> 432
 <211> 308
 <212> PRT
 <213> Homo Sapiens

<400> 432

Met Asn Thr Thr Leu Phe His Pro Tyr Ser Phe Leu Leu Leu Gly Ile
 1 5 10 15
 Pro Gly Leu Glu Ser Met His Leu Trp Val Gly Phe Pro Phe Phe Ala
 20 25 30
 Val Phe Leu Thr Ala Val Leu Gly Asn Ile Thr Ile Leu Phe Val Ile
 35 40 45
 Gln Thr Asp Ser Ser Leu His His Pro Met Phe Tyr Phe Leu Ala Ile
 50 55 60
 Leu Ser Ser Ile Asp Pro Gly Leu Ser Thr Ser Thr Ile Pro Lys Met
 65 70 75 80
 Leu Gly Thr Phe Trp Phe Thr Leu Arg Glu Ile Ser Phe Glu Gly Cys
 85 90 95
 Leu Thr Gln Met Phe Phe Ile His Leu Cys Thr Gly Met Glu Ser Ala

100	105	110
Val Leu Val Ala Met Ala Tyr Asp Cys Tyr Val Ala Ile Cys Asp Pro		
115	120	125
Leu Cys Tyr Thr Leu Val Leu Thr Asn Lys Val Val Ser Val Met Ala		
130	135	140
Leu Ala Ile Phe Leu Arg Pro Leu Val Phe Val Ile Pro Phe Val Leu		
145	150	155
Phe Ile Leu Arg Leu Pro Phe Cys Gly His Gln Ile Ile Pro His Thr		
165	170	175
Tyr Gly Glu His Met Gly Ile Ala Arg Leu Ser Cys Ala Ser Ile Arg		
180	185	190
Val Asn Ile Ile Tyr Gly Leu Cys Ala Ile Ser Ile Leu Val Phe Asp		
195	200	205
Ile Ile Ala Ile Val Ile Ser Tyr Val Gln Ile Leu Cys Ala Val Phe		
210	215	220
Leu Leu Ser Ser His Asp Ala Arg Leu Lys Ala Phe Ser Thr Cys Gly		
225	230	235
Ser His Val Cys Val Met Leu Thr Phe Tyr Met Pro Ala Phe Phe Ser		
245	250	255
Phe Met Thr His Arg Phe Gly Arg Asn Ile Pro His Phe Ile His Ile		
260	265	270
Leu Leu Ala Asn Phe Tyr Val Val Ile Pro Pro Ala Leu Asn Ser Val		
275	280	285
Ile Tyr Gly Val Arg Thr Lys Gln Ile Arg Ala Gln Val Leu Lys Met		
290	295	300

Phe Phe Asn Lys
305

<210> 433
<211> 936
<212> DNA
<213> Homo Sapiens

<220>

<221> CDS

<222> (1) .. (933)

<223>

<400> 433

atg ttt tat cac aac aag agc ata ttt cac cca gtc aca ttt ttc ctc	48
Met Phe Tyr His Asn Lys Ser Ile Phe His Pro Val Thr Phe Phe Leu	
1 5 10 15	
att gga atc cca ggt ctg gaa gac ttc cac atg tgg atc tcc ggg cct	96
Ile Gly Ile Pro Gly Leu Glu Asp Phe His Met Trp Ile Ser Gly Pro	
20 25 30	
ttc tgc tct gtt tac ctt gtg gct ttg ctg ggc aat gcc acc att ctg	144
Phe Cys Ser Val Tyr Leu Val Ala Leu Leu Gly Asn Ala Thr Ile Leu	
35 40 45	
cta gtc atc aag gta gaa cag act ctc cgg gag ccc atg ttc tac ttc	192
Leu Val Ile Lys Val Glu Gln Thr Leu Arg Glu Pro Met Phe Tyr Phe	
50 55 60	
ctg gcc att ctt tcc act att gat ttg gcc ctt tct gca acc tct gtg	240
Leu Ala Ile Leu Ser Thr Ile Asp Leu Ala Leu Ser Ala Thr Ser Val	
65 70 75 80	
cct cgc atg ctg ggt atc ttc tgg ttt gat gct cac gag att aac tat	288
Pro Arg Met Leu Gly Ile Phe Trp Phe Asp Ala His Glu Ile Asn Tyr	
85 90 95	
gga gct tgt gtg gcc cag atg ttt ctg atc cat gcc ttc act ggc atg	336
Gly Ala Cys Val Ala Gln Met Phe Leu Ile His Ala Phe Thr Gly Met	
100 105 110	
gag gct gag gtc tta ctg gct atg gct ttt gac cgt tat gtg gcc atc	384
Glu Ala Glu Val Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile	
115 120 125	
tgt gct cca cta cat tac gca acc atc ttg aca tcc cta gtg ttg gtg	432
Cys Ala Pro Leu His Tyr Ala Thr Ile Leu Thr Ser Leu Val Leu Val	
130 135 140	
ggc att agc atg tgc att gta att cgt ccc gtt tta ctt aca ctt ccc	480
Gly Ile Ser Met Cys Ile Val Ile Arg Pro Val Leu Leu Thr Leu Pro	
145 150 155 160	
atg gtc tat ctt atc tac cgc cta ccc ttt tgt cag gct cac ata ata	528
Met Val Tyr Leu Ile Tyr Arg Leu Pro Phe Cys Gln Ala His Ile Ile	
165 170 175	
gcc cat tcc tac tgt gag cac atg ggc att gca aaa ttg tcc tgt gga	576
Ala His Ser Tyr Cys Glu His Met Gly Ile Ala Lys Leu Ser Cys Gly	
180 185 190	
aac att cgt atc aat ggt atc tat ggg ctt ttt gta gtt tct ttc ttt	624
Asn Ile Arg Ile Asn Gly Ile Tyr Gly Leu Phe Val Val Ser Phe Phe	
195 200 205	
gtt ctg aac ctg gtg ctc att ggc atc tcg tat gtt tac att ctc cgt	672
Val Leu Asn Leu Val Leu Ile Gly Ile Ser Tyr Val Tyr Ile Leu Arg	
210 215 220	

gct gtc ttc cgc ctc cca tca cat gat gct cag cta aaa gcc cta agc 720
 Ala Val Phe Arg Leu Pro Ser His Asp Ala Gln Leu Lys Ala Leu Ser
 225 230 235 240
 acg tgt ggc gct cat gtt gga gtc atc tgt gtt ttc tat atc cct tca 768
 Thr Cys Gly Ala His Val Gly Val Ile Cys Val Phe Tyr Ile Pro Ser
 245 250 255
 gtc ttc tct ttc ctt act cat cga ttt gga cac caa ata cca ggt tac 816
 Val Phe Ser Phe Leu Thr His Arg Phe Gly His Gln Ile Pro Gly Tyr
 260 265 270
 att cac att ctt gtt gcc aat ctc tat ttg att atc cca ccc tct ctc 864
 Ile His Ile Leu Val Ala Asn Leu Tyr Leu Ile Ile Pro Pro Ser Leu
 275 280 285
 aac ccc atc att tat ggg gtg agg acc aaa cag att cga gag cga gtg 912
 Asn Pro Ile Ile Tyr Gly Val Arg Thr Lys Gln Ile Arg Glu Arg Val
 290 295 300
 ctc tat gtt ttt act aaa aaa taa 936
 Leu Tyr Val Phe Thr Lys Lys
 305 310

<210> 434
 <211> 311
 <212> PRT
 <213> Homo Sapiens

<400> 434

Met Phe Tyr His Asn Lys Ser Ile Phe His Pro Val Thr Phe Phe Leu
 1 5 10 15
 Ile Gly Ile Pro Gly Leu Glu Asp Phe His Met Trp Ile Ser Gly Pro
 20 25 30
 Phe Cys Ser Val Tyr Leu Val Ala Leu Leu Gly Asn Ala Thr Ile Leu
 35 40 45
 Leu Val Ile Lys Val Glu Gln Thr Leu Arg Glu Pro Met Phe Tyr Phe
 50 55 60
 Leu Ala Ile Leu Ser Thr Ile Asp Leu Ala Leu Ser Ala Thr Ser Val
 65 70 75 80
 Pro Arg Met Leu Gly Ile Phe Trp Phe Asp Ala His Glu Ile Asn Tyr
 85 90 95
 Gly Ala Cys Val Ala Gln Met Phe Leu Ile His Ala Phe Thr Gly Met
 100 105 110

Glu Ala Glu Val Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile
 115 120 125

Cys Ala Pro Leu His Tyr Ala Thr Ile Leu Thr Ser Leu Val Leu Val
 130 135 140

Gly Ile Ser Met Cys Ile Val Ile Arg Pro Val Leu Leu Thr Leu Pro
 145 150 155 160

Met Val Tyr Leu Ile Tyr Arg Leu Pro Phe Cys Gln Ala His Ile Ile
 165 170 175

Ala His Ser Tyr Cys Glu His Met Gly Ile Ala Lys Leu Ser Cys Gly
 180 185 190

Asn Ile Arg Ile Asn Gly Ile Tyr Gly Leu Phe Val Val Ser Phe Phe
 195 200 205

Val Leu Asn Leu Val Leu Ile Gly Ile Ser Tyr Val Tyr Ile Leu Arg
 210 215 220

Ala Val Phe Arg Leu Pro Ser His Asp Ala Gln Leu Lys Ala Leu Ser
 225 230 235 240

Thr Cys Gly Ala His Val Gly Val Ile Cys Val Phe Tyr Ile Pro Ser
 245 250 255

Val Phe Ser Phe Leu Thr His Arg Phe Gly His Gln Ile Pro Gly Tyr
 260 265 270

Ile His Ile Leu Val Ala Asn Leu Tyr Leu Ile Ile Pro Pro Ser Leu
 275 280 285

Asn Pro Ile Ile Tyr Gly Val Arg Thr Lys Gln Ile Arg Glu Arg Val
 290 295 300

Leu Tyr Val Phe Thr Lys Lys
 305 310

<210> 435
 <211> 942
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1) .. (939)
 <223>

<400> 435
 atg tcc att atc aac aca tca tat gtt gaa atc acc acc ttc ttc ttg 48
 Met Ser Ile Ile Asn Thr Ser Tyr Val Glu Ile Thr Thr Phe Phe Leu
 1 5 10 15

gtt ggg atg cca ggg cta gaa tat gca cac atc tgg atc tct atc ccc 96
 Val Gly Met Pro Gly Leu Glu Tyr Ala His Ile Trp Ile Ser Ile Pro
 20 25 30

atc tgc agc atg tat ctt att gct att cta gga aat ggc acc att ctt 144
 Ile Cys Ser Met Tyr Leu Ile Ala Ile Leu Gly Asn Gly Thr Ile Leu
 35 40 45

ttt atc atc aag aca gag ccc tcc ttg cat gag ccc atg tac tat ttt 192
 Phe Ile Ile Lys Thr Glu Pro Ser Leu His Glu Pro Met Tyr Tyr Phe
 50 55 60

ctt tcc atg ttg gct atg tca gac ttg ggt ttg tct tta tca tct ctg 240
 Leu Ser Met Leu Ala Met Ser Asp Leu Gly Leu Ser Leu Ser Ser Leu
 65 70 75 80

ccc act gtg tta agc atc ttc ctg ttc aat gct cct gaa att tca tcc 288
 Pro Thr Val Leu Ser Ile Phe Leu Phe Asn Ala Pro Glu Ile Ser Ser
 85 90 95

aat gcc tgc ttt gcc cag gaa ttc ttc att cat gga ttc tca gta ctg 336
 Asn Ala Cys Phe Ala Gln Glu Phe Phe Ile His Gly Phe Ser Val Leu
 100 105 110

gag tcc tca gtc ctc ctg atc atg tca ttt gat aga ttc cta gcc atc 384
 Glu Ser Ser Val Leu Leu Ile Met Ser Phe Asp Arg Phe Leu Ala Ile
 115 120 125

cac aac cct ctg aga tac acc tca atc ctg aca act gtc aga gtt gcc 432
 His Asn Pro Leu Arg Tyr Thr Ser Ile Leu Thr Thr Val Arg Val Ala
 130 135 140

caa ata ggg ata gta ttc tcc ttt aag agc atg ctc ctg gtt ctt ccc 480
 Gln Ile Gly Ile Val Phe Ser Phe Lys Ser Met Leu Leu Val Leu Pro
 145 150 155 160

ttc cct ttc act tta aga aac ttg aga tat tgc aag aaa aac caa tta 528
 Phe Pro Phe Thr Leu Arg Asn Leu Arg Tyr Cys Lys Lys Asn Gln Leu
 165 170 175

tcc cat tcc tac tgt ctc cac cag gat gtc atg aag ttg gcc tgt tct 576
 Ser His Ser Tyr Cys Leu His Gln Asp Val Met Lys Leu Ala Cys Ser
 180 185 190

gac aac aga att gat gtt atc tat ggc ttt ttt gga gca ctc tgc ctt 624
 Asp Asn Arg Ile Asp Val Ile Tyr Gly Phe Phe Gly Ala Leu Cys Leu
 195 200 205

atg gta gac ttt att ctc att gct gtg tct tac acc ctg atc ctc aag 672
 Met Val Asp Phe Ile Leu Ile Ala Val Ser Tyr Thr Leu Ile Leu Lys
 210 215 220

act gta ctg gga att gca tcc aaa aag gag cag ctt aag gct ctc aat 720
 Thr Val Leu Gly Ile Ala Ser Lys Lys Glu Gln Leu Lys Ala Leu Asn

225 230 235 240
 act tgt gtt tca cac atc tgt gca gtg atc atc ttc tac ctg ccc atc 768
 Thr Cys Val Ser His Ile Cys Ala Val Ile Ile Phe Tyr Leu Pro Ile
 245 250 255

 atc aac ctg gcc gtt gtc cac cgc ttt gcc cgg cat gtc tct ccc ctc 816
 Ile Asn Leu Ala Val Val His Arg Phe Ala Arg His Val Ser Pro Leu
 260 265 270

 att aat gtt ctc atg gca aat gtt ctc cta ctt gta cct cca ctg acg 864
 Ile Asn Val Leu Met Ala Asn Val Leu Leu Leu Val Pro Pro Leu Thr
 275 280 285

 aac cca att gtt tat tgt gta aaa act aaa cag att aga gtg aga gtt 912
 Asn Pro Ile Val Tyr Cys Val Lys Thr Lys Gln Ile Arg Val Arg Val
 290 295 300

 gta gca aaa ttg tgt caa cgg aag att taa 942
 Val Ala Lys Leu Cys Gln Arg Lys Ile
 305 310

 <210> 436
 <211> 313
 <212> PRT
 <213> Homo Sapiens

 <400> 436

 Met Ser Ile Ile Asn Thr Ser Tyr Val Glu Ile Thr Thr Phe Phe Leu
 1 5 10 15

 Val Gly Met Pro Gly Leu Glu Tyr Ala His Ile Trp Ile Ser Ile Pro
 20 25 30

 Ile Cys Ser Met Tyr Leu Ile Ala Ile Leu Gly Asn Gly Thr Ile Leu
 35 40 45

 Phe Ile Ile Lys Thr Glu Pro Ser Leu His Glu Pro Met Tyr Tyr Phe
 50 55 60

 Leu Ser Met Leu Ala Met Ser Asp Leu Gly Leu Ser Leu Ser Ser Leu
 65 70 75 80

 Pro Thr Val Leu Ser Ile Phe Leu Phe Asn Ala Pro Glu Ile Ser Ser
 85 90 95

 Asn Ala Cys Phe Ala Gln Glu Phe Phe Ile His Gly Phe Ser Val Leu
 100 105 110

 Glu Ser Ser Val Leu Leu Ile Met Ser Phe Asp Arg Phe Leu Ala Ile
 115 120 125

His Asn Pro Leu Arg Tyr Thr Ser Ile Leu Thr Thr Val Arg Val Ala
 130 135 140

Gln Ile Gly Ile Val Phe Ser Phe Lys Ser Met Leu Leu Val Leu Pro
 145 150 155 160

Phe Pro Phe Thr Leu Arg Asn Leu Arg Tyr Cys Lys Lys Asn Gln Leu
 165 170 175

Ser His Ser Tyr Cys Leu His Gln Asp Val Met Lys Leu Ala Cys Ser
 180 185 190

Asp Asn Arg Ile Asp Val Ile Tyr Gly Phe Phe Gly Ala Leu Cys Leu
 195 200 205

Met Val Asp Phe Ile Leu Ile Ala Val Ser Tyr Thr Leu Ile Leu Lys
 210 215 220

Thr Val Leu Gly Ile Ala Ser Lys Lys Glu Gln Leu Lys Ala Leu Asn
 225 230 235 240

Thr Cys Val Ser His Ile Cys Ala Val Ile Ile Phe Tyr Leu Pro Ile
 245 250 255

Ile Asn Leu Ala Val Val His Arg Phe Ala Arg His Val Ser Pro Leu
 260 265 270

Ile Asn Val Leu Met Ala Asn Val Leu Leu Leu Val Pro Pro Leu Thr
 275 280 285

Asn Pro Ile Val Tyr Cys Val Lys Thr Lys Gln Ile Arg Val Arg Val
 290 295 300

Val Ala Lys Leu Cys Gln Arg Lys Ile
 305 310

<210> 437
 <211> 948
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1)..(945)
 <223>

<400> 437

atg gga gac tgg aat aac agt gat gct gtg gag ccc ata ttt atc ctg Met Gly Asp Trp Asn Asn Ser Asp Ala Val Glu Pro Ile Phe Ile Leu 1 5 10 15	48
agg ggt ttt cct gga ctg gag tat gtt cat tct tgg ctc tcc atc ctc Arg Gly Phe Pro Gly Leu Glu Tyr Val His Ser Trp Leu Ser Ile Leu 20 25 30	96
ttc tgt ctt gca tat ttg gta gca ttt atg ggt aat gtt acc atc ctg Phe Cys Leu Ala Tyr Leu Val Ala Phe Met Gly Asn Val Thr Ile Leu 35 40 45	144
tct gtc att tgg ata gaa tcc tct ctc cat cag ccc atg tat tac ttt Ser Val Ile Trp Ile Glu Ser Ser Leu His Gln Pro Met Tyr Tyr Phe 50 55 60	192
att tcc atc tta gca gtg aat gac ctg ggg atg tcc ctg tct aca ctt Ile Ser Ile Leu Ala Val Asn Asp Leu Gly Met Ser Leu Ser Thr Leu 65 70 75 80	240
ccc acc atg ctt gct gtg tta tgg ttg gat gct cca gag atc cag gca Pro Thr Met Leu Ala Val Leu Trp Leu Asp Ala Pro Glu Ile Gln Ala 85 90 95	288
agt gct tgc tat gct cag ctg ttc ttc atc cac aca ttc aca ttc ctg Ser Ala Cys Tyr Ala Gln Leu Phe Phe Ile His Thr Phe Thr Phe Leu 100 105 110	336
gag tcc tca gtg ttg ctg gcc atg gcc ttt gac cgt ttt gtt gct atc Glu Ser Ser Val Leu Leu Ala Met Ala Phe Asp Arg Phe Val Ala Ile 115 120 125	384
tgc cat cca ctg cac tac ccc acc atc ctc acc aac agt gta att ggc Cys His Pro Leu His Tyr Pro Thr Ile Leu Thr Asn Ser Val Ile Gly 130 135 140	432
aaa att ggt ttg gcc tgt ttg cta cga agc ttg gga gtt gta ctt ccc Lys Ile Gly Leu Ala Cys Leu Leu Arg Ser Leu Gly Val Val Leu Pro 145 150 155 160	480
aca cct ttg cta ctg aga cac tat cac tac tgc cat ggc aat gcc ctc Thr Pro Leu Leu Leu Arg His Tyr His Tyr Cys His Gly Asn Ala Leu 165 170 175	528
tct cac gcc ttc tgt ttg cac cag gat gtt cta aga tta tcc tgt aca Ser His Ala Phe Cys Leu His Gln Asp Val Leu Arg Leu Ser Cys Thr 180 185 190	576
gat gcc agg acc aac agt att tat ggg ctt tgt gta gtc att gcc aca Asp Ala Arg Thr Asn Ser Ile Tyr Gly Leu Cys Val Val Ile Ala Thr 195 200 205	624
cta ggt gtg gat tca atc ttc ata ctt ctt tct tat gtt ctg att ctt Leu Gly Val Asp Ser Ile Phe Ile Leu Leu Ser Tyr Val Leu Ile Leu 210 215 220	672
aat act gtg ctg gat att gca tct cgt gaa gag cag cta aag gca ctc Asn Thr Val Leu Asp Ile Ala Ser Arg Glu Glu Gln Leu Lys Ala Leu 225 230 235 240	720
aac aca tgt gta tcc cat atc tgt gtg gtg ctt atc ttc ttt gtg cca	768

Asn Thr Cys Val Ser His Ile Cys Val Val Leu Ile Phe Phe Val Pro
 245 250 255
 gtt att ggg gtg tca atg gtc cat cgc ttt ggg aag cat ctg tct ccc 816
 Val Ile Gly Val Ser Met Val His Arg Phe Gly Lys His Leu Ser Pro
 260 265 270
 ata gtc cac atc ctc atg gca gac atc tac ctt ctt ctt ccc cca gtc 864
 Ile Val His Ile Leu Met Ala Asp Ile Tyr Leu Leu Leu Pro Pro Val
 275 280 285
 ctt aac cct att gtc tat agt gtc aga aca aag cag att cgt cta gga 912
 Leu Asn Pro Ile Val Tyr Ser Val Arg Thr Lys Gln Ile Arg Leu Gly
 290 295 300
 att ctc cac aag ttt gtc cta agg agg agg ttt taa 948
 Ile Leu His Lys Phe Val Leu Arg Arg Arg Phe
 305 310 315

 <210> 438
 <211> 315
 <212> PRT
 <213> Homo Sapiens

 <400> 438
 Met Gly Asp Trp Asn Asn Ser Asp Ala Val Glu Pro Ile Phe Ile Leu
 1 5 10 15
 Arg Gly Phe Pro Gly Leu Glu Tyr Val His Ser Trp Leu Ser Ile Leu
 20 25 30
 Phe Cys Leu Ala Tyr Leu Val Ala Phe Met Gly Asn Val Thr Ile Leu
 35 40 45
 Ser Val Ile Trp Ile Glu Ser Ser Leu His Gln Pro Met Tyr Tyr Phe
 50 55 60
 Ile Ser Ile Leu Ala Val Asn Asp Leu Gly Met Ser Leu Ser Thr Leu
 65 70 75 80
 Pro Thr Met Leu Ala Val Leu Trp Leu Asp Ala Pro Glu Ile Gln Ala
 85 90 95
 Ser Ala Cys Tyr Ala Gln Leu Phe Phe Ile His Thr Phe Thr Phe Leu
 100 105 110
 Glu Ser Ser Val Leu Leu Ala Met Ala Phe Asp Arg Phe Val Ala Ile
 115 120 125
 Cys His Pro Leu His Tyr Pro Thr Ile Leu Thr Asn Ser Val Ile Gly
 130 135 140

Lys Ile Gly Leu Ala Cys Leu Leu Arg Ser Leu Gly Val Val Leu Pro
 145 150 155 160

Thr Pro Leu Leu Leu Arg His Tyr His Tyr Cys His Gly Asn Ala Leu
 165 170 175

Ser His Ala Phe Cys Leu His Gln Asp Val Leu Arg Leu Ser Cys Thr
 180 185 190

Asp Ala Arg Thr Asn Ser Ile Tyr Gly Leu Cys Val Val Ile Ala Thr
 195 200 205

Leu Gly Val Asp Ser Ile Phe Ile Leu Leu Ser Tyr Val Leu Ile Leu
 210 215 220

Asn Thr Val Leu Asp Ile Ala Ser Arg Glu Glu Gln Leu Lys Ala Leu
 225 230 235 240

Asn Thr Cys Val Ser His Ile Cys Val Val Leu Ile Phe Phe Val Pro
 245 250 255

Val Ile Gly Val Ser Met Val His Arg Phe Gly Lys His Leu Ser Pro
 260 265 270

Ile Val His Ile Leu Met Ala Asp Ile Tyr Leu Leu Leu Pro Pro Val
 275 280 285

Leu Asn Pro Ile Val Tyr Ser Val Arg Thr Lys Gln Ile Arg Leu Gly
 290 295 300

Ile Leu His Lys Phe Val Leu Arg Arg Arg Phe
 305 310 315

<210> 439
 <211> 942
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1)..(939)
 <223>

<400> 439
 atg tcc att atc aac aca tca tat gtt gaa atc acc acc ttc ttc ttg
 Met Ser Ile Ile Asn Thr Ser Tyr Val Glu Ile Thr Thr Phe Phe Leu
 1 5 10 15

48

gtt ggg atg cca ggg cta gaa tat gca cac atc tgg atc tct atc ccc Val Gly Met Pro Gly Leu Glu Tyr Ala His Ile Trp Ile Ser Ile Pro 20 25 30	96
atc tgc agc atg tat ctt att gct att cta gga aat ggc acc att ctt Ile Cys Ser Met Tyr Leu Ile Ala Ile Leu Gly Asn Gly Thr Ile Leu 35 40 45	144
ttt atc atc aag aca gag ccc tcc ttg cat ggg ccc atg tac tat ttt Phe Ile Ile Lys Thr Glu Pro Ser Leu His Gly Pro Met Tyr Tyr Phe 50 55 60	192
ctt tcc atg ttg gct atg tca gac ttg ggt ttg tct tta tca tct ctg Leu Ser Met Leu Ala Met Ser Asp Leu Gly Leu Ser Leu Ser Ser Leu 65 70 75 80	240
ccc act gtg tta agc atc ttc ctg ttc aat gcc cct gaa act tct tct Pro Thr Val Leu Ser Ile Phe Leu Phe Asn Ala Pro Glu Thr Ser Ser 85 90 95	288
agt gcc tgc ttt gcc cag gaa ttc ttc att cat gga ttc tca gta ctg Ser Ala Cys Phe Ala Gln Glu Phe Phe Ile His Gly Phe Ser Val Leu 100 105 110	336
gag tcc tca gtc ctc ctg atc atg tca ttt gat aga ttc cta gcc atc Glu Ser Ser Val Leu Leu Ile Met Ser Phe Asp Arg Phe Leu Ala Ile 115 120 125	384
cac aat cct ctg aga tac acc tca atc ctg aca act gtc aga gtt gcc His Asn Pro Leu Arg Tyr Thr Ser Ile Leu Thr Thr Val Arg Val Ala 130 135 140	432
caa ata ggg ata gta ttc tcc ttt aag agc atg ctc ctg gtt ctt ccc Gln Ile Gly Ile Val Phe Ser Phe Lys Ser Met Leu Leu Val Leu Pro 145 150 155 160	480
ttc cct ttc act tta aga agc ttg aga tat tgc aag aaa aac caa tta Phe Pro Phe Thr Leu Arg Ser Leu Arg Tyr Cys Lys Lys Asn Gln Leu 165 170 175	528
tcc cat tcc tac tgt ctc cac cag gat gtc atg aag ttg gcc tgt tct Ser His Ser Tyr Cys Leu His Gln Asp Val Met Lys Leu Ala Cys Ser 180 185 190	576
gac aac aga att gat gtt atc tat ggc ttt ttt gga gca ctc tgc ctt Asp Asn Arg Ile Asp Val Ile Tyr Gly Phe Phe Gly Ala Leu Cys Leu 195 200 205	624
atg gta gac ttt att ctc att gct gtg tct tac acc ctg atc ctc aag Met Val Asp Phe Ile Leu Ile Ala Val Ser Tyr Thr Leu Ile Leu Lys 210 215 220	672
act gta ccg gga att gca tcc aaa aag gag gag ctt aag gct ctc aat Thr Val Pro Gly Ile Ala Ser Lys Lys Glu Glu Leu Lys Ala Leu Asn 225 230 235 240	720
act tgt gtt tca cac atc tgt gca gtg atc atc ttc tac ctg ccc atc Thr Cys Val Ser His Ile Cys Ala Val Ile Ile Phe Tyr Leu Pro Ile 245 250 255	768

atc aac ctg gcc gtt gtc cac cgc ttt gcc ggg cat gtc tct ccc ctc 816
 Ile Asn Leu Ala Val Val His Arg Phe Ala Gly His Val Ser Pro Leu
 260 265 270

att aat gtt ctc atg gca aat gtt ctc cta ctt gta cct ccg ctg atg 864
 Ile Asn Val Leu Met Ala Asn Val Leu Leu Leu Val Pro Pro Leu Met
 275 280 285

aaa cca att gtt tat tgt gta aaa act aaa cag att aga gtg aga gtt 912
 Lys Pro Ile Val Tyr Cys Val Lys Thr Lys Gln Ile Arg Val Arg Val
 290 295 300

gta gca aaa ttg tgt caa tgg aag att taa 942
 Val Ala Lys Leu Cys Gln Trp Lys Ile
 305 310

<210> 440

<211> 313

<212> PRT

<213> Homo Sapiens

<400> 440

Met Ser Ile Ile Asn Thr Ser Tyr Val Glu Ile Thr Thr Phe Phe Leu
 1 5 10 15

Val Gly Met Pro Gly Leu Glu Tyr Ala His Ile Trp Ile Ser Ile Pro
 20 25 30

Ile Cys Ser Met Tyr Leu Ile Ala Ile Leu Gly Asn Gly Thr Ile Leu
 35 40 45

Phe Ile Ile Lys Thr Glu Pro Ser Leu His Gly Pro Met Tyr Tyr Phe
 50 55 60

Leu Ser Met Leu Ala Met Ser Asp Leu Gly Leu Ser Leu Ser Ser Leu
 65 70 75 80

Pro Thr Val Leu Ser Ile Phe Leu Phe Asn Ala Pro Glu Thr Ser Ser
 85 90 95

Ser Ala Cys Phe Ala Gln Glu Phe Phe Ile His Gly Phe Ser Val Leu
 100 105 110

Glu Ser Ser Val Leu Leu Ile Met Ser Phe Asp Arg Phe Leu Ala Ile
 115 120 125

His Asn Pro Leu Arg Tyr Thr Ser Ile Leu Thr Thr Val Arg Val Ala
 130 135 140

Gln Ile Gly Ile Val Phe Ser Phe Lys Ser Met Leu Leu Val Leu Pro

145 150 155 160
 Phe Pro Phe Thr Leu Arg Ser Leu Arg Tyr Cys Lys Lys Asn Gln Leu
 165 170 175
 Ser His Ser Tyr Cys Leu His Gln Asp Val Met Lys Leu Ala Cys Ser
 180 185 190
 Asp Asn Arg Ile Asp Val Ile Tyr Gly Phe Phe Gly Ala Leu Cys Leu
 195 200 205
 Met Val Asp Phe Ile Leu Ile Ala Val Ser Tyr Thr Leu Ile Leu Lys
 210 215 220
 Thr Val Pro Gly Ile Ala Ser Lys Lys Glu Glu Leu Lys Ala Leu Asn
 225 230 235 240
 Thr Cys Val Ser His Ile Cys Ala Val Ile Ile Phe Tyr Leu Pro Ile
 245 250 255
 Ile Asn Leu Ala Val Val His Arg Phe Ala Gly His Val Ser Pro Leu
 260 265 270
 Ile Asn Val Leu Met Ala Asn Val Leu Leu Leu Val Pro Pro Leu Met
 275 280 285
 Lys Pro Ile Val Tyr Cys Val Lys Thr Lys Gln Ile Arg Val Arg Val
 290 295 300
 Val Ala Lys Leu Cys Gln Trp Lys Ile
 305 310

<210> 441
 <211> 1029
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1)..(1026)
 <223>

<400> 441
 atg act gaa aca tcc ctg tct tct cag tgc ttc cct atg tcg gtc ctc 48
 Met Thr Glu Thr Ser Leu Ser Ser Gln Cys Phe Pro Met Ser Val Leu
 1 5 10 15
 aat aat acc att gct gag cct ctg atc ttc ctc ctg atg ggc att cca 96
 Asn Asn Thr Ile Ala Glu Pro Leu Ile Phe Leu Leu Met Gly Ile Pro

20	25	30	
ggc ctg aaa gcc acc cag tac tgg atc tcc atc cct ttt tgt ctc cta Gly Leu Lys Ala Thr Gln Tyr Trp Ile Ser Ile Pro Phe Cys Leu Leu 35 40 45			144
tat gtt gtt gcc gtc tct gga aat agc atg atc ctg ttt gtg gtc ctc Tyr Val Val Ala Val Ser Gly Asn Ser Met Ile Leu Phe Val Val Leu 50 55 60			192
tgt gaa cgg agc ctc cat aag cct atg tac tat ttc ctc tct atg ctt Cys Glu Arg Ser Leu His Lys Pro Met Tyr Tyr Phe Leu Ser Met Leu 65 70 75 80			240
tca gcc aca gac ctg agc ttg tcc ctg tgt aca ctt tct act acc ctt Ser Ala Thr Asp Leu Ser Leu Ser Leu Cys Thr Leu Ser Thr Thr Leu 85 90 95			288
ggt gtc ttc tgg ttt gaa gcc cga gaa atc aac cta aat gcc tgc att Gly Val Phe Trp Phe Glu Ala Arg Glu Ile Asn Leu Asn Ala Cys Ile 100 105 110			336
gcc cag atg ttc ttt cta cac gga ttt act ttc atg gag tct ggg gtt Ala Gln Met Phe Phe Leu His Gly Phe Thr Phe Met Glu Ser Gly Val 115 120 125			384
cta ctg gcc atg gcc ttt gat cgt ttt gtg gcc atc tgt tac cca ctg Leu Leu Ala Met Ala Phe Asp Arg Phe Val Ala Ile Cys Tyr Pro Leu 130 135 140			432
aga tac act acc atc ctt acc aat gcc cga att gcc aag att ggg atg Arg Tyr Thr Thr Ile Leu Thr Asn Ala Arg Ile Ala Lys Ile Gly Met 145 150 155 160			480
agc atg ttg ata aga aat gtt gcc gtc atg ttg cca gtc atg ctc ttt Ser Met Leu Ile Arg Asn Val Ala Val Met Leu Pro Val Met Leu Phe 165 170 175			528
gtc aag agg ttg tcc ttc tgc agt tct atg gtc ctt tca cat tct tac Val Lys Arg Leu Ser Phe Cys Ser Ser Met Val Leu Ser His Ser Tyr 180 185 190			576
tgc tac cat gtt gat ctc atc caa ctc tcc tgc aca gac aat agg atc Cys Tyr His Val Asp Leu Ile Gln Leu Ser Cys Thr Asp Asn Arg Ile 195 200 205			624
aac agc atc ctt ggt ctg ttt gcg ctt ttg tcc act aca ggg ttt gac Asn Ser Ile Leu Gly Leu Phe Ala Leu Leu Ser Thr Thr Gly Phe Asp 210 215 220			672
tgc cct tgc atc ctg ctc tcc tat atc ctg atc att cga tct gtc ctc Cys Pro Cys Ile Leu Leu Ser Tyr Ile Leu Ile Ile Arg Ser Val Leu 225 230 235 240			720
agc att gct tcc tca gaa gag agg cgg aaa gcc ttc aac acc tgc aca Ser Ile Ala Ser Ser Glu Glu Arg Arg Lys Ala Phe Asn Thr Cys Thr 245 250 255			768
tcc cac atc agt gct gtt tcc atc ttc tac ctc cct ctc atc agt ttg Ser His Ile Ser Ala Val Ser Ile Phe Tyr Leu Pro Leu Ile Ser Leu 260 265 270			816

tct ctt gtc cat cgc tat ggc cat tca gca cct cca ttt gtc cac atc 864
 Ser Leu Val His Arg Tyr Gly His Ser Ala Pro Pro Phe Val His Ile
 275 280 285

atc atg gcc aat gtc ttt ctg cta atc cct cct gtg ctc aac cct att 912
 Ile Met Ala Asn Val Phe Leu Leu Ile Pro Pro Val Leu Asn Pro Ile
 290 295 300

att tac agt gta aag att aag cag att caa aag gcc att atc aag gtc 960
 Ile Tyr Ser Val Lys Ile Lys Gln Ile Gln Lys Ala Ile Ile Lys Val
 305 310 315 320

tta att cag aag cac tcc aaa tct aat cat cag cta ttt ctg att aga 1008
 Leu Ile Gln Lys His Ser Lys Ser Asn His Gln Leu Phe Leu Ile Arg
 325 330 335

gat aaa gcc att tat gaa taa 1029
 Asp Lys Ala Ile Tyr Glu
 340

<210> 442
 <211> 342
 <212> PRT
 <213> Homo Sapiens

<400> 442

Met Thr Glu Thr Ser Leu Ser Ser Gln Cys Phe Pro Met Ser Val Leu
 1 5 10 15

Asn Asn Thr Ile Ala Glu Pro Leu Ile Phe Leu Leu Met Gly Ile Pro
 20 25 30

Gly Leu Lys Ala Thr Gln Tyr Trp Ile Ser Ile Pro Phe Cys Leu Leu
 35 40 45

Tyr Val Val Ala Val Ser Gly Asn Ser Met Ile Leu Phe Val Val Leu
 50 55 60

Cys Glu Arg Ser Leu His Lys Pro Met Tyr Tyr Phe Leu Ser Met Leu
 65 70 75 80

Ser Ala Thr Asp Leu Ser Leu Ser Leu Cys Thr Leu Ser Thr Thr Leu
 85 90 95

Gly Val Phe Trp Phe Glu Ala Arg Glu Ile Asn Leu Asn Ala Cys Ile
 100 105 110

Ala Gln Met Phe Phe Leu His Gly Phe Thr Phe Met Glu Ser Gly Val
 115 120 125

Leu Leu Ala Met Ala Phe Asp Arg Phe Val Ala Ile Cys Tyr Pro Leu
 130 135 140

Arg Tyr Thr Thr Ile Leu Thr Asn Ala Arg Ile Ala Lys Ile Gly Met
 145 150 155 160

Ser Met Leu Ile Arg Asn Val Ala Val Met Leu Pro Val Met Leu Phe
 165 170 175

Val Lys Arg Leu Ser Phe Cys Ser Ser Met Val Leu Ser His Ser Tyr
 180 185 190

Cys Tyr His Val Asp Leu Ile Gln Leu Ser Cys Thr Asp Asn Arg Ile
 195 200 205

Asn Ser Ile Leu Gly Leu Phe Ala Leu Leu Ser Thr Thr Gly Phe Asp
 210 215 220

Cys Pro Cys Ile Leu Leu Ser Tyr Ile Leu Ile Ile Arg Ser Val Leu
 225 230 235 240

Ser Ile Ala Ser Ser Glu Glu Arg Arg Lys Ala Phe Asn Thr Cys Thr
 245 250 255

Ser His Ile Ser Ala Val Ser Ile Phe Tyr Leu Pro Leu Ile Ser Leu
 260 265 270

Ser Leu Val His Arg Tyr Gly His Ser Ala Pro Pro Phe Val His Ile
 275 280 285

Ile Met Ala Asn Val Phe Leu Leu Ile Pro Pro Val Leu Asn Pro Ile
 290 295 300

Ile Tyr Ser Val Lys Ile Lys Gln Ile Gln Lys Ala Ile Ile Lys Val
 305 310 315 320

Leu Ile Gln Lys His Ser Lys Ser Asn His Gln Leu Phe Leu Ile Arg
 325 330 335

Asp Lys Ala Ile Tyr Glu
 340

<210> 443

<211> 957

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1) .. (954)

<223>

<400> 443

atg gac aag ata aac cag aca ttt gtg aga gaa ttc att ctt ctg gga	48
Met Asp Lys Ile Asn Gln Thr Phe Val Arg Glu Phe Ile Leu Leu Gly	
1 5 10 15	
ctc tct ggt tac ccc aaa ctt gag atc att ttc ttt gct ctg att cta	96
Leu Ser Gly Tyr Pro Lys Leu Glu Ile Ile Phe Phe Ala Leu Ile Leu	
20 25 30	
gtt atg tac gta gtg att cta att ggc aat ggt gtt ctg atc ata gca	144
Val Met Tyr Val Val Ile Leu Ile Gly Asn Gly Val Leu Ile Ile Ala	
35 40 45	
agc atc ttg gat tct cgt ctt cac atg ccc atg tac ttc ttc ctg ggc	192
Ser Ile Leu Asp Ser Arg Leu His Met Pro Met Tyr Phe Phe Leu Gly	
50 55 60	
aac ctc tct ttc ctg gat atc tgc tat aca acc tcc tcc att ccc tca	240
Asn Leu Ser Phe Leu Asp Ile Cys Tyr Thr Thr Ser Ser Ile Pro Ser	
65 70 75 80	
aca ctg gtg agc tta atc tca aag aaa aga aac att tcc ttc tct gga	288
Thr Leu Val Ser Leu Ile Ser Lys Lys Arg Asn Ile Ser Phe Ser Gly	
85 90 95	
tgt gca gtg cag atg ttc ttt ggg ttt gca atg ggg tca aca gaa tgt	336
Cys Ala Val Gln Met Phe Phe Gly Phe Ala Met Gly Ser Thr Glu Cys	
100 105 110	
ttc ctc ctt ggc atg atg gca ttt gat cgt tat gtg gcc atc tgt aac	384
Phe Leu Leu Gly Met Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Asn	
115 120 125	
cct ctg aga tac ccc atc atc atg aac aag gtg gtg tat gta ctg ctg	432
Pro Leu Arg Tyr Pro Ile Ile Met Asn Lys Val Val Tyr Val Leu Leu	
130 135 140	
act tct gta tca tgg ctt tct ggt gga atc aat tca act gtg caa aca	480
Thr Ser Val Ser Trp Leu Ser Gly Gly Ile Asn Ser Thr Val Gln Thr	
145 150 155 160	
tca ctt gcc atg cga tgg cct ttc tgt ggg aac aat att att aat cat	528
Ser Leu Ala Met Arg Trp Pro Phe Cys Gly Asn Asn Ile Ile Asn His	
165 170 175	
ttc tta tgc gag atc tta gct gtc cta aaa tta gct tgt tct gat ata	576
Phe Leu Cys Glu Ile Leu Ala Val Leu Lys Leu Ala Cys Ser Asp Ile	
180 185 190	
tct gtc aat att gtt acc cta gca gtg tca aat att gct ttc cta gtt	624
Ser Val Asn Ile Val Thr Leu Ala Val Ser Asn Ile Ala Phe Leu Val	
195 200 205	
ctt cct ctg ctc gtg att ttt ttc tcc tat atg ttc atc ctc tac acc	672
Leu Pro Leu Leu Val Ile Phe Phe Ser Tyr Met Phe Ile Leu Tyr Thr	

210 215 220
 atc ttg cga acg aac tcg gcc aca gga aga cac aag gca ttt tct aca 720
 Ile Leu Arg Thr Asn Ser Ala Thr Gly Arg His Lys Ala Phe Ser Thr
 225 230 235 240
 tgc tca gct cac ctg act gtg gtg atc ata ttt tat ggt acc atc ttc 768
 Cys Ser Ala His Leu Thr Val Val Ile Ile Phe Tyr Gly Thr Ile Phe
 245 250 255
 ttt atg tat gca aaa cct aag tcc cag gac ctc ctt ggg aaa gac aac 816
 Phe Met Tyr Ala Lys Pro Lys Ser Gln Asp Leu Leu Gly Lys Asp Asn
 260 265 270
 ttg caa gct aca gag ggg ctt gtt tcc atg ttt tat ggg gtt gtg acc 864
 Leu Gln Ala Thr Glu Gly Leu Val Ser Met Phe Tyr Gly Val Val Thr
 275 280 285
 ccc atg tta aac ccc ata atc tat agc ttg aga aat aaa gat gta aaa 912
 Pro Met Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys
 290 295 300
 gct gct ata aaa tat ttg ctg agc agg aaa gct att aac cag taa 957
 Ala Ala Ile Lys Tyr Leu Leu Ser Arg Lys Ala Ile Asn Gln
 305 310 315

<210> 444
 <211> 318
 <212> PRT
 <213> Homo Sapiens

<400> 444

Met Asp Lys Ile Asn Gln Thr Phe Val Arg Glu Phe Ile Leu Leu Gly
 1 5 10 15

Leu Ser Gly Tyr Pro Lys Leu Glu Ile Ile Phe Phe Ala Leu Ile Leu
 20 25 30

Val Met Tyr Val Val Ile Leu Ile Gly Asn Gly Val Leu Ile Ile Ala
 35 40 45

Ser Ile Leu Asp Ser Arg Leu His Met Pro Met Tyr Phe Phe Leu Gly
 50 55 60

Asn Leu Ser Phe Leu Asp Ile Cys Tyr Thr Thr Ser Ser Ile Pro Ser
 65 70 75 80

Thr Leu Val Ser Leu Ile Ser Lys Lys Arg Asn Ile Ser Phe Ser Gly
 85 90 95

Cys Ala Val Gln Met Phe Phe Gly Phe Ala Met Gly Ser Thr Glu Cys
 100 105 110

Phe Leu Leu Gly Met Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Asn
 115 120 125

Pro Leu Arg Tyr Pro Ile Ile Met Asn Lys Val Val Tyr Val Leu Leu
 130 135 140

Thr Ser Val Ser Trp Leu Ser Gly Gly Ile Asn Ser Thr Val Gln Thr
 145 150 155 160

Ser Leu Ala Met Arg Trp Pro Phe Cys Gly Asn Asn Ile Ile Asn His
 165 170 175

Phe Leu Cys Glu Ile Leu Ala Val Leu Lys Leu Ala Cys Ser Asp Ile
 180 185 190

Ser Val Asn Ile Val Thr Leu Ala Val Ser Asn Ile Ala Phe Leu Val
 195 200 205

Leu Pro Leu Leu Val Ile Phe Phe Ser Tyr Met Phe Ile Leu Tyr Thr
 210 215 220

Ile Leu Arg Thr Asn Ser Ala Thr Gly Arg His Lys Ala Phe Ser Thr
 225 230 235 240

Cys Ser Ala His Leu Thr Val Val Ile Ile Phe Tyr Gly Thr Ile Phe
 245 250 255

Phe Met Tyr Ala Lys Pro Lys Ser Gln Asp Leu Leu Gly Lys Asp Asn
 260 265 270

Leu Gln Ala Thr Glu Gly Leu Val Ser Met Phe Tyr Gly Val Val Thr
 275 280 285

Pro Met Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys
 290 295 300

Ala Ala Ile Lys Tyr Leu Leu Ser Arg Lys Ala Ile Asn Gln
 305 310 315

<210> 445
 <211> 948
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1)..(945)

<223>

<400> 445

atg gtg ctg gct tca ggg aac agc tct tct cat cct gtg tcc ttc atc	48
Met Val Leu Ala Ser Gly Asn Ser Ser Ser His Pro Val Ser Phe Ile	
1 5 10 15	
ctg ctt gga atc cca ggc ctg gag agt ttc cag ttg tgg att gcc ttt	96
Leu Leu Gly Ile Pro Gly Leu Glu Ser Phe Gln Leu Trp Ile Ala Phe	
20 25 30	
ccg ttc tgt gcc acg tat gct gtg gct gtt gtt gga aat atc act ctc	144
Pro Phe Cys Ala Thr Tyr Ala Val Ala Val Val Gly Asn Ile Thr Leu	
35 40 45	
ctc cat gta atc aga att gac cac acc ctg cat gag ccc atg tac ctc	192
Leu His Val Ile Arg Ile Asp His Thr Leu His Glu Pro Met Tyr Leu	
50 55 60	
ttt ctg gcc atg ctg gcc atc act gac ctg gtc ctc tcc tcc tcc act	240
Phe Leu Ala Met Leu Ala Ile Thr Asp Leu Val Leu Ser Ser Ser Thr	
65 70 75 80	
caa cct aag atg ttg gcc ata ttc tgg ttt cat gct cat gag att cag	288
Gln Pro Lys Met Leu Ala Ile Phe Trp Phe His Ala His Glu Ile Gln	
85 90 95	
tac cat gcc tgc ctc atc cag gtg ttc ttc atc cat gcc ttt tct tct	336
Tyr His Ala Cys Leu Ile Gln Val Phe Phe Ile His Ala Phe Ser Ser	
100 105 110	
gtg gag tct ggg gtg ctc atg gct atg gcc ctg gac tgc tac gtg gct	384
Val Glu Ser Gly Val Leu Met Ala Met Ala Leu Asp Cys Tyr Val Ala	
115 120 125	
acc tgc ttc cca ctc cga cac tct agc atc ctg acc cca tgc gtc gtg	432
Thr Cys Phe Pro Leu Arg His Ser Ser Ile Leu Thr Pro Ser Val Val	
130 135 140	
atc aaa ctg ggg acc atc gtg atg ctg aga ggg ctg ctg tgg gtg agc	480
Ile Lys Leu Gly Thr Ile Val Met Leu Arg Gly Leu Leu Trp Val Ser	
145 150 155 160	
ccc ttc tgc ttc atg gtg tct agg atg ccc ttc tgc caa cac caa gcc	528
Pro Phe Cys Phe Met Val Ser Arg Met Pro Phe Cys Gln His Gln Ala	
165 170 175	
att ccc cag tca tac tgt gag cac atg gct gtg ctg aag ttg gtg tgt	576
Ile Pro Gln Ser Tyr Cys Glu His Met Ala Val Leu Lys Leu Val Cys	
180 185 190	
gct gat aca agc ata agt cgt ggg tat ggg ctc ttt gtg gcc ttc tct	624
Ala Asp Thr Ser Ile Ser Arg Gly Tyr Gly Leu Phe Val Ala Phe Ser	
195 200 205	
gtg gct ggc ttt gat atg att gtc att ggt atg tca tac gtg atg att	672
Val Ala Gly Phe Asp Met Ile Val Ile Gly Met Ser Tyr Val Met Ile	
210 215 220	
ttg aga gct gtg ctt cag ttg ccc tca ggt gaa gcc cgc ctc aaa gct	720

Leu Arg Ala Val Leu Gln Leu Pro Ser Gly Glu Ala Arg Leu Lys Ala
 225 230 235 240
 ttt agc aca cgt gcc tcc cat atc tgt gtc atc ttg gct ctt tat atc 768
 Phe Ser Thr Arg Ala Ser His Ile Cys Val Ile Leu Ala Leu Tyr Ile
 245 250 255
 cca gcc ctt ttt tct ttc ctc acc tac cgc ttt ggc cat gat gtg ccc 816
 Pro Ala Leu Phe Ser Phe Leu Thr Tyr Arg Phe Gly His Asp Val Pro
 260 265 270
 cga gtt gta cac atc ctg ttt gct aat ctc tat cta ctg ata cct ccc 864
 Arg Val Val His Ile Leu Phe Ala Asn Leu Tyr Leu Leu Ile Pro Pro
 275 280 285
 atg ctc aac ccc atc att tat gga gtt aga acc aaa cag atc ggg gac 912
 Met Leu Asn Pro Ile Ile Tyr Gly Val Arg Thr Lys Gln Ile Gly Asp
 290 295 300
 agg gtt atc caa gga tgt tgt gga aac atc ccc tga 948
 Arg Val Ile Gln Gly Cys Cys Gly Asn Ile Pro
 305 310 315

<210> 446
 <211> 315
 <212> PRT
 <213> Homo Sapiens

<400> 446

Met Val Leu Ala Ser Gly Asn Ser Ser Ser His Pro Val Ser Phe Ile
 1 5 10 15

Leu Leu Gly Ile Pro Gly Leu Glu Ser Phe Gln Leu Trp Ile Ala Phe
 20 25 30

Pro Phe Cys Ala Thr Tyr Ala Val Ala Val Val Gly Asn Ile Thr Leu
 35 40 45

Leu His Val Ile Arg Ile Asp His Thr Leu His Glu Pro Met Tyr Leu
 50 55 60

Phe Leu Ala Met Leu Ala Ile Thr Asp Leu Val Leu Ser Ser Ser Thr
 65 70 75 80

Gln Pro Lys Met Leu Ala Ile Phe Trp Phe His Ala His Glu Ile Gln
 85 90 95

Tyr His Ala Cys Leu Ile Gln Val Phe Phe Ile His Ala Phe Ser Ser
 100 105 110

Val Glu Ser Gly Val Leu Met Ala Met Ala Leu Asp Cys Tyr Val Ala
 115 120 125

Thr Cys Phe Pro Leu Arg His Ser Ser Ile Leu Thr Pro Ser Val Val
 130 135 140
 Ile Lys Leu Gly Thr Ile Val Met Leu Arg Gly Leu Leu Trp Val Ser
 145 150 155 160
 Pro Phe Cys Phe Met Val Ser Arg Met Pro Phe Cys Gln His Gln Ala
 165 170 175
 Ile Pro Gln Ser Tyr Cys Glu His Met Ala Val Leu Lys Leu Val Cys
 180 185 190
 Ala Asp Thr Ser Ile Ser Arg Gly Tyr Gly Leu Phe Val Ala Phe Ser
 195 200 205
 Val Ala Gly Phe Asp Met Ile Val Ile Gly Met Ser Tyr Val Met Ile
 210 215 220
 Leu Arg Ala Val Leu Gln Leu Pro Ser Gly Glu Ala Arg Leu Lys Ala
 225 230 235 240
 Phe Ser Thr Arg Ala Ser His Ile Cys Val Ile Leu Ala Leu Tyr Ile
 245 250 255
 Pro Ala Leu Phe Ser Phe Leu Thr Tyr Arg Phe Gly His Asp Val Pro
 260 265 270
 Arg Val Val His Ile Leu Phe Ala Asn Leu Tyr Leu Leu Ile Pro Pro
 275 280 285
 Met Leu Asn Pro Ile Ile Tyr Gly Val Arg Thr Lys Gln Ile Gly Asp
 290 295 300
 Arg Val Ile Gln Gly Cys Cys Gly Asn Ile Pro
 305 310 315

<210> 447
 <211> 945
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1) .. (942)
 <223>

<400> 447

atg acc ctg gga tcc ctg gga aac agc agc agc agc gtt tct gct acc	48
Met Thr Leu Gly Ser Leu Gly Asn Ser Ser Ser Val Ser Ala Thr	
1 5 10 15	
ttc ctg ctg agt ggc atc cct ggg ctg gag cgc atg cac atc tgg atc	96
Phe Leu Leu Ser Gly Ile Pro Gly Leu Glu Arg Met His Ile Trp Ile	
20 25 30	
tcc atc cca ctg tgc ttc atg tat ctg gtt tcc atc ccg ggc aac tgc	144
Ser Ile Pro Leu Cys Phe Met Tyr Leu Val Ser Ile Pro Gly Asn Cys	
35 40 45	
aca att ctt ttt atc att aaa aca gag cgc tca ctt cat gaa cct atg	192
Thr Ile Leu Phe Ile Ile Lys Thr Glu Arg Ser Leu His Glu Pro Met	
50 55 60	
tat ctc ttc ctg tcc atg ctg gct ctg att gac ctg ggt ctc tcc ctt	240
Tyr Leu Phe Leu Ser Met Leu Ala Leu Ile Asp Leu Gly Leu Ser Leu	
65 70 75 80	
tgc act ctc cct aca gtc ctg ggc atc ttt tgg gtt gga gca cga gaa	288
Cys Thr Leu Pro Thr Val Leu Gly Ile Phe Trp Val Gly Ala Arg Glu	
85 90 95	
att agc cat gat gcc tgc ttt gct cag ctc ttt ttc att cac tgc ttc	336
Ile Ser His Asp Ala Cys Phe Ala Gln Leu Phe Phe Ile His Cys Phe	
100 105 110	
tcc ttc ctc gag tcc tct gtg cta ctg tct atg gcc ttt gac cgc ttt	384
Ser Phe Leu Glu Ser Ser Val Leu Leu Ser Met Ala Phe Asp Arg Phe	
115 120 125	
gtg gct atc tgc cac ccc ttg cac tat gtt tcc att ctc acc aac aca	432
Val Ala Ile Cys His Pro Leu His Tyr Val Ser Ile Leu Thr Asn Thr	
130 135 140	
gtc att ggc agg att ggc ctg gtc tct ctg ggt cgt agt gta gca ctc	480
Val Ile Gly Arg Ile Gly Leu Val Ser Leu Gly Arg Ser Val Ala Leu	
145 150 155 160	
att ttt cca tta cct ttt atg ctc aaa aga ttc ccc tat tgt ggc tcc	528
Ile Phe Pro Leu Pro Phe Met Leu Lys Arg Phe Pro Tyr Cys Gly Ser	
165 170 175	
cca gtt ctc tca cat tct tat tgt ctc cac caa gaa gtg atg aaa ttg	576
Pro Val Leu Ser His Ser Tyr Cys Leu His Gln Glu Val Met Lys Leu	
180 185 190	
gcc tgt gcc gac atg aag gcc aac agc atc tac ggc atg ttt gtc atc	624
Ala Cys Ala Asp Met Lys Ala Asn Ser Ile Tyr Gly Met Phe Val Ile	
195 200 205	
gtc tct aca gtg ggt ata gac tca ctg ctc atc ctc ttc tct tat gct	672
Val Ser Thr Val Gly Ile Asp Ser Leu Leu Ile Leu Phe Ser Tyr Ala	
210 215 220	
ctg atc ctg cgc acc gtg ctg tcc atc gcc tcc agg gct gag aga ttc	720
Leu Ile Leu Arg Thr Val Leu Ser Ile Ala Ser Arg Ala Glu Arg Phe	
225 230 235 240	

aag gcc ctt aac acc tgt gtt tcc cac atc tgt gct gtg ctg ctc ttc 768
 Lys Ala Leu Asn Thr Cys Val Ser His Ile Cys Ala Val Leu Leu Phe
 245 250 255

tac act ccc atg att ggc ctc tct gtc atc cat cgc ttt gga aag cag 816
 Tyr Thr Pro Met Ile Gly Leu Ser Val Ile His Arg Phe Gly Lys Gln
 260 265 270

gca ccc cac ctg gtc cag gtg gtc atg ggt ttc atg tat ctt ctc ttt 864
 Ala Pro His Leu Val Gln Val Val Met Gly Phe Met Tyr Leu Leu Phe
 275 280 285

cct cct gtg atg aat ccc att gtc tac agt gtg aag acc aaa cag atc 912
 Pro Pro Val Met Asn Pro Ile Val Tyr Ser Val Lys Thr Lys Gln Ile
 290 295 300

cgg gat cga gtg acg cat gcc ttt tgt tac taa 945
 Arg Asp Arg Val Thr His Ala Phe Cys Tyr
 305 310

<210> 448

<211> 314

<212> PRT

<213> Homo Sapiens

<400> 448

Met Thr Leu Gly Ser Leu Gly Asn Ser Ser Ser Ser Val Ser Ala Thr
 1 5 10 15

Phe Leu Leu Ser Gly Ile Pro Gly Leu Glu Arg Met His Ile Trp Ile
 20 25 30

Ser Ile Pro Leu Cys Phe Met Tyr Leu Val Ser Ile Pro Gly Asn Cys
 35 40 45

Thr Ile Leu Phe Ile Ile Lys Thr Glu Arg Ser Leu His Glu Pro Met
 50 55 60

Tyr Leu Phe Leu Ser Met Leu Ala Leu Ile Asp Leu Gly Leu Ser Leu
 65 70 75 80

Cys Thr Leu Pro Thr Val Leu Gly Ile Phe Trp Val Gly Ala Arg Glu
 85 90 95

Ile Ser His Asp Ala Cys Phe Ala Gln Leu Phe Phe Ile His Cys Phe
 100 105 110

Ser Phe Leu Glu Ser Ser Val Leu Leu Ser Met Ala Phe Asp Arg Phe
 115 120 125

Val Ala Ile Cys His Pro Leu His Tyr Val Ser Ile Leu Thr Asn Thr

130 135 140
 Val Ile Gly Arg Ile Gly Leu Val Ser Leu Gly Arg Ser Val Ala Leu
 145 150 155 160
 Ile Phe Pro Leu Pro Phe Met Leu Lys Arg Phe Pro Tyr Cys Gly Ser
 165 170 175
 Pro Val Leu Ser His Ser Tyr Cys Leu His Gln Glu Val Met Lys Leu
 180 185 190
 Ala Cys Ala Asp Met Lys Ala Asn Ser Ile Tyr Gly Met Phe Val Ile
 195 200 205
 Val Ser Thr Val Gly Ile Asp Ser Leu Leu Ile Leu Phe Ser Tyr Ala
 210 215 220
 Leu Ile Leu Arg Thr Val Leu Ser Ile Ala Ser Arg Ala Glu Arg Phe
 225 230 235 240
 Lys Ala Leu Asn Thr Cys Val Ser His Ile Cys Ala Val Leu Leu Phe
 245 250 255
 Tyr Thr Pro Met Ile Gly Leu Ser Val Ile His Arg Phe Gly Lys Gln
 260 265 270
 Ala Pro His Leu Val Gln Val Val Met Gly Phe Met Tyr Leu Leu Phe
 275 280 285
 Pro Pro Val Met Asn Pro Ile Val Tyr Ser Val Lys Thr Lys Gln Ile
 290 295 300
 Arg Asp Arg Val Thr His Ala Phe Cys Tyr
 305 310

<210> 449
 <211> 942
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1) .. (939)
 <223>

<400> 449
 atg tcc att atc aac aca tca tat gtt gaa atc acc acc ttc ttc ttg
 Met Ser Ile Ile Asn Thr Ser Tyr Val Glu Ile Thr Thr Phe Phe Leu

48

1	5	10	15	
gtt ggg atg cca ggg cta gaa tat gca cac atc tgg atc tct atc ccc				96
Val Gly Met Pro Gly Leu Glu Tyr Ala His Ile Trp Ile Ser Ile Pro	20	25	30	
atc tgc agc atg tat ctt att gct att cta gga aat tgc acc att ctt				144
Ile Cys Ser Met Tyr Leu Ile Ala Ile Leu Gly Asn Cys Thr Ile Leu	35	40	45	
ttt atc atc aag aca gag ccc tcc ttg cat gag ccc atg tac tat ttt				192
Phe Ile Ile Lys Thr Glu Pro Ser Leu His Glu Pro Met Tyr Tyr Phe	50	55	60	
ctt tcc atg ttg gct atg tca gac ttg ggt ttg tct tta tca tct ctg				240
Leu Ser Met Leu Ala Met Ser Asp Leu Gly Leu Ser Leu Ser Ser Leu	65	70	75	80
ccc act gtg tta agc atc ttc ctg ttc aat gct cct gaa att tca tcc				288
Pro Thr Val Leu Ser Ile Phe Leu Phe Asn Ala Pro Glu Ile Ser Ser	85	90	95	
aat gcc tgc ttt gcc cag gaa ttc ttc att cat gga ttc tca gta ctg				336
Asn Ala Cys Phe Ala Gln Glu Phe Phe Ile His Gly Phe Ser Val Leu	100	105	110	
gag tcc tca gtc ctc ctg atc atg tca ttt gat aga ttc cta gcc atc				384
Glu Ser Ser Val Leu Leu Ile Met Ser Phe Asp Arg Phe Leu Ala Ile	115	120	125	
cac aac cct ctg aga tac acc tca atc ctg aca act gtc aga gtt gcc				432
His Asn Pro Leu Arg Tyr Thr Ser Ile Leu Thr Thr Val Arg Val Ala	130	135	140	
caa ata ggg ata gta ttc tcc ttt aag agc atg ctc ctg gtt ctt ccc				480
Gln Ile Gly Ile Val Phe Ser Phe Lys Ser Met Leu Leu Val Leu Pro	145	150	155	160
ttc cct ttc act tta aga aac ttg aga tat tgc aag aaa aac caa tta				528
Phe Pro Phe Thr Leu Arg Asn Leu Arg Tyr Cys Lys Lys Asn Gln Leu	165	170	175	
tcc cat tcc tac tgt ctc cac cag gat gtc atg aag ttg gcc tgt tct				576
Ser His Ser Tyr Cys Leu His Gln Asp Val Met Lys Leu Ala Cys Ser	180	185	190	
gac aac aga att gat gtt atc tat ggc ttt ttt gga gca ctc tgc ctt				624
Asp Asn Arg Ile Asp Val Ile Tyr Gly Phe Phe Gly Ala Leu Cys Leu	195	200	205	
atg gta gac ttt att ctc att gct gtg tct tac acc ctg atc ctc aag				672
Met Val Asp Phe Ile Leu Ile Ala Val Ser Tyr Thr Leu Ile Leu Lys	210	215	220	
act gta ccg gga att gca tcc aaa aag gag cag ctt aag gct ctc aat				720
Thr Val Pro Gly Ile Ala Ser Lys Lys Glu Gln Leu Lys Ala Leu Asn	225	230	235	240
act tgt gtt tca cac atc tgt gca gtg atc atc ttc tac ctg ccc atc				768
Thr Cys Val Ser His Ile Cys Ala Val Ile Ile Phe Tyr Leu Pro Ile	245	250	255	

atc aac ctg gcc gtt gtc cac cgc ttt gcc cgg cat gtc tct ccc ctc 816
 Ile Asn Leu Ala Val Val His Arg Phe Ala Arg His Val Ser Pro Leu
 260 265 270

att aat gtt ctc atg gca aat gtt ctc cta ctt gta cct cca ctg atg 864
 Ile Asn Val Leu Met Ala Asn Val Leu Leu Leu Val Pro Pro Leu Met
 275 280 285

aac cca att gtt tat tgt gta aaa act aaa cag att aga gtg aga gtt 912
 Asn Pro Ile Val Tyr Cys Val Lys Thr Lys Gln Ile Arg Val Arg Val
 290 295 300

gta gca aaa ttg tgt caa cgg aag att taa 942
 Val Ala Lys Leu Cys Gln Arg Lys Ile
 305 310

<210> 450

<211> 313

<212> PRT

<213> Homo Sapiens

<400> 450

Met Ser Ile Ile Asn Thr Ser Tyr Val Glu Ile Thr Thr Phe Phe Leu
 1 5 10 15

Val Gly Met Pro Gly Leu Glu Tyr Ala His Ile Trp Ile Ser Ile Pro
 20 25 30

Ile Cys Ser Met Tyr Leu Ile Ala Ile Leu Gly Asn Cys Thr Ile Leu
 35 40 45

Phe Ile Ile Lys Thr Glu Pro Ser Leu His Glu Pro Met Tyr Tyr Phe
 50 55 60

Leu Ser Met Leu Ala Met Ser Asp Leu Gly Leu Ser Leu Ser Ser Leu
 65 70 75 80

Pro Thr Val Leu Ser Ile Phe Leu Phe Asn Ala Pro Glu Ile Ser Ser
 85 90 95

Asn Ala Cys Phe Ala Gln Glu Phe Phe Ile His Gly Phe Ser Val Leu
 100 105 110

Glu Ser Ser Val Leu Leu Ile Met Ser Phe Asp Arg Phe Leu Ala Ile
 115 120 125

His Asn Pro Leu Arg Tyr Thr Ser Ile Leu Thr Thr Val Arg Val Ala
 130 135 140

Gln Ile Gly Ile Val Phe Ser Phe Lys Ser Met Leu Leu Val Leu Pro
 145 150 155 160

Phe Pro Phe Thr Leu Arg Asn Leu Arg Tyr Cys Lys Lys Asn Gln Leu
 165 170 175

Ser His Ser Tyr Cys Leu His Gln Asp Val Met Lys Leu Ala Cys Ser
 180 185 190

Asp Asn Arg Ile Asp Val Ile Tyr Gly Phe Phe Gly Ala Leu Cys Leu
 195 200 205

Met Val Asp Phe Ile Leu Ile Ala Val Ser Tyr Thr Leu Ile Leu Lys
 210 215 220

Thr Val Pro Gly Ile Ala Ser Lys Lys Glu Gln Leu Lys Ala Leu Asn
 225 230 235 240

Thr Cys Val Ser His Ile Cys Ala Val Ile Ile Phe Tyr Leu Pro Ile
 245 250 255

Ile Asn Leu Ala Val Val His Arg Phe Ala Arg His Val Ser Pro Leu
 260 265 270

Ile Asn Val Leu Met Ala Asn Val Leu Leu Leu Val Pro Pro Leu Met
 275 280 285

Asn Pro Ile Val Tyr Cys Val Lys Thr Lys Gln Ile Arg Val Arg Val
 290 295 300

Val Ala Lys Leu Cys Gln Arg Lys Ile
 305 310

<210> 451
 <211> 966
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1) .. (963)
 <223>

<400> 451
 atg aca att ctt ctt aat agc agc ctc caa aga gcc act ttc ttc ctg 48
 Met Thr Ile Leu Leu Asn Ser Ser Leu Gln Arg Ala Thr Phe Phe Leu
 1 5 10 15

acg ggc ttc caa ggt cta gaa ggt ctc cat ggc tgg atc tct att ccc 96

Thr Gly Phe Gln Gly Leu Glu Gly Leu His Gly Trp Ile Ser Ile Pro	
20 25 30	
ttc tgc ttc atc tac ctg aca gtt atc ttg ggg aac ctc acc att ctc	144
Phe Cys Phe Ile Tyr Leu Thr Val Ile Leu Gly Asn Leu Thr Ile Leu	
35 40 45	
cac gtc att tgt act gat gcc act ctc cat gga ccc atg tac tat ttc	192
His Val Ile Cys Thr Asp Ala Thr Leu His Gly Pro Met Tyr Tyr Phe	
50 55 60	
ttg ggc atg cta gct gtc aca gac tta ggc ctt tgc ctt tcc aca ctg	240
Leu Gly Met Leu Ala Val Thr Asp Leu Gly Leu Cys Leu Ser Thr Leu	
65 70 75 80	
ccc act gtg ctg ggc att ttc tgg ttt gat acc aga gag att ggc atc	288
Pro Thr Val Leu Gly Ile Phe Trp Phe Asp Thr Arg Glu Ile Gly Ile	
85 90 95	
cct gcc tgt ttc act cag ctc ttc ttc atc cac acc ttg tct tca atg	336
Pro Ala Cys Phe Thr Gln Leu Phe Phe Ile His Thr Leu Ser Ser Met	
100 105 110	
gag tca tca gtt ctg tta tcc atg tcc att gac cgc tcc gtg gcc gtc	384
Glu Ser Ser Val Leu Leu Ser Met Ser Ile Asp Arg Ser Val Ala Val	
115 120 125	
tgc aac cca ctg cat gac tcc acc gtc ctg aca cct gca tgt att gtc	432
Cys Asn Pro Leu His Asp Ser Thr Val Leu Thr Pro Ala Cys Ile Val	
130 135 140	
aag atg ggg cta agc tca gtg ctt aga agt gct ctc ctc atc ctc ccc	480
Lys Met Gly Leu Ser Ser Val Leu Arg Ser Ala Leu Leu Ile Leu Pro	
145 150 155 160	
ttg cca ttc ctc ctg aag cgc ttc caa tac tgc cac tcc cat gtg ctg	528
Leu Pro Phe Leu Leu Lys Arg Phe Gln Tyr Cys His Ser His Val Leu	
165 170 175	
gct cat gct tat tgt ctt cac ctg gag atc atg aag ctg gcc tgc tct	576
Ala His Ala Tyr Cys Leu His Leu Glu Ile Met Lys Leu Ala Cys Ser	
180 185 190	
agc atc att gtc aat cac atc tat ggg ctc ttt gtt gtg gcc tgc acc	624
Ser Ile Ile Val Asn His Ile Tyr Gly Leu Phe Val Val Ala Cys Thr	
195 200 205	
gtg ggt gtg gac tcc ctg ctc atc ttt ctc tca tac gcc ctc atc ctt	672
Val Gly Val Asp Ser Leu Leu Ile Phe Leu Ser Tyr Ala Leu Ile Leu	
210 215 220	
cgc acc gtg ctc agc att gcc tcc cac cag gag cga ctc cga gcc ctc	720
Arg Thr Val Leu Ser Ile Ala Ser His Gln Glu Arg Leu Arg Ala Leu	
225 230 235 240	
aac acc tgt gtc tct cat atc tgt gct gta ctg ctc ttc tac atc ccc	768
Asn Thr Cys Val Ser His Ile Cys Ala Val Leu Leu Phe Tyr Ile Pro	
245 250 255	
atg att ggc ttg tct ctt gtg cat cgc ttt ggt gaa cat ctg ccc cgc	816
Met Ile Gly Leu Ser Leu Val His Arg Phe Gly Glu His Leu Pro Arg	

260	265	270	
gtt gta cac ctc ttc atg tcc tat	gtg tat ctg ctg gta cca ccc ctt	864	
Val Val His Leu Phe Met Ser Tyr	Val Tyr Leu Leu Val Pro Pro Leu		
275	280	285	
atg aac ccc atc atc tac agc atc aag acc aag caa att cgc cag cgc	912		
Met Asn Pro Ile Ile Tyr Ser Ile Lys Thr Lys Gln Ile Arg Gln Arg			
290	295	300	
atc att aag aag ttt cag ttt ata aag tca ctt agg tgt ttt tgg aag	960		
Ile Ile Lys Lys Phe Gln Phe Ile Lys Ser Leu Arg Cys Phe Trp Lys			
305	310	315	
gat taa		966	
Asp			

<210> 452
 <211> 321
 <212> PRT
 <213> Homo Sapiens
 <400> 452

Met Thr Ile Leu Leu Asn Ser Ser Leu Gln Arg Ala Thr Phe Phe Leu
1 5 10 15

Thr Gly Phe Gln Gly Leu Glu Gly Leu His Gly Trp Ile Ser Ile Pro
20 25 30

Phe Cys Phe Ile Tyr Leu Thr Val Ile Leu Gly Asn Leu Thr Ile Leu
35 40 45

His Val Ile Cys Thr Asp Ala Thr Leu His Gly Pro Met Tyr Tyr Phe
50 55 60

Leu Gly Met Leu Ala Val Thr Asp Leu Gly Leu Cys Leu Ser Thr Leu
65 70 75 80

Pro Thr Val Leu Gly Ile Phe Trp Phe Asp Thr Arg Glu Ile Gly Ile
85 90 95

Pro Ala Cys Phe Thr Gln Leu Phe Phe Ile His Thr Leu Ser Ser Met
100 105 110

Glu Ser Ser Val Leu Leu Ser Met Ser Ile Asp Arg Ser Val Ala Val
115 120 125

Cys Asn Pro Leu His Asp Ser Thr Val Leu Thr Pro Ala Cys Ile Val
130 135 140

Lys Met Gly Leu Ser Ser Val Leu Arg Ser Ala Leu Leu Ile Leu Pro
 145 150 155 160

Leu Pro Phe Leu Leu Lys Arg Phe Gln Tyr Cys His Ser His Val Leu
 165 170 175

Ala His Ala Tyr Cys Leu His Leu Glu Ile Met Lys Leu Ala Cys Ser
 180 185 190

Ser Ile Ile Val Asn His Ile Tyr Gly Leu Phe Val Val Ala Cys Thr
 195 200 205

Val Gly Val Asp Ser Leu Leu Ile Phe Leu Ser Tyr Ala Leu Ile Leu
 210 215 220

Arg Thr Val Leu Ser Ile Ala Ser His Gln Glu Arg Leu Arg Ala Leu
 225 230 235 240

Asn Thr Cys Val Ser His Ile Cys Ala Val Leu Leu Phe Tyr Ile Pro
 245 250 255

Met Ile Gly Leu Ser Leu Val His Arg Phe Gly Glu His Leu Pro Arg
 260 265 270

Val Val His Leu Phe Met Ser Tyr Val Tyr Leu Leu Val Pro Pro Leu
 275 280 285

Met Asn Pro Ile Ile Tyr Ser Ile Lys Thr Lys Gln Ile Arg Gln Arg
 290 295 300

Ile Ile Lys Lys Phe Gln Phe Ile Lys Ser Leu Arg Cys Phe Trp Lys
 305 310 315 320

Asp

<210> 453
 <211> 909
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1) .. (906)
 <223>

<400> 453

atg acg aac ttg aat gca tca cag gcc aac cac cgt aac ttc att ctg Met Thr Asn Leu Asn Ala Ser Gln Ala Asn His Arg Asn Phe Ile Leu 1 5 10 15	48
aca ggt atc cca gga acg cca gac aag aac cca tgg ttg gcc ttt ccc Thr Gly Ile Pro Gly Thr Pro Asp Lys Asn Pro Trp Leu Ala Phe Pro 20 25 30	96
ctg gga ttt ctc tac aca ctc aca ctc ctg gga aat ggt acc atc cta Leu Gly Phe Leu Tyr Thr Leu Thr Leu Leu Gly Asn Gly Thr Ile Leu 35 40 45	144
gct gtc atc aag gtg gag cca agt ctc cat gag ccc acg tat tac ttc Ala Val Ile Lys Val Glu Pro Ser Leu His Glu Pro Thr Tyr Tyr Phe 50 55 60	192
ctt tct atc ttg gct ctc act gac gtt agt ctc tcc atg tcc acc ttg Leu Ser Ile Leu Ala Leu Thr Asp Val Ser Leu Ser Met Ser Thr Leu 65 70 75 80	240
ccc tcc atg ctc agc atc tac tgg ttt aat gcc cct cag att gtt ttt Pro Ser Met Leu Ser Ile Tyr Trp Phe Asn Ala Pro Gln Ile Val Phe 85 90 95	288
gat gca tgc atc atg cag atg ttc ttc atc cat gta ttt gga ata gta Asp Ala Cys Ile Met Gln Met Phe Phe Ile His Val Phe Gly Ile Val 100 105 110	336
gaa tca gga gtc cta gtg tcc atg gcc ttt gac aga ttt gtg gcc atc Glu Ser Gly Val Leu Val Ser Met Ala Phe Asp Arg Phe Val Ala Ile 115 120 125	384
cga aac cca tta cac tat gtt tcc atc ctc act cac gat gtt att cga Arg Asn Pro Leu His Tyr Val Ser Ile Leu Thr His Asp Val Ile Arg 130 135 140	432
aag act gga ata tct gtc ctc acc cgg gca gtc tgt gtg gta ttc cct Lys Thr Gly Ile Ser Val Leu Thr Arg Ala Val Cys Val Val Phe Pro 145 150 155 160	480
gtg ccc ttc ctt ata aag tgc cta ccc ttc tgc cat tcc aat gtc ttg Val Pro Phe Leu Ile Lys Cys Leu Pro Phe Cys His Ser Asn Val Leu 165 170 175	528
tct cat tca tac tgt ctt cac caa aac atg atg cgg cta gct tgt gcc Ser His Ser Tyr Cys Leu His Gln Asn Met Met Arg Leu Ala Cys Ala 180 185 190	576
agc acc cgc atc aac agc ctc tac ggc ctc atc gtc gtc atc ttc aca Ser Thr Arg Ile Asn Ser Leu Tyr Gly Leu Ile Val Val Ile Phe Thr 195 200 205	624
ctg ggg ctc gat gtt ctc ctc act cta ctg tct tat gta ctc acc ctg Leu Gly Leu Asp Val Leu Leu Thr Leu Leu Ser Tyr Val Leu Thr Leu 210 215 220	672
aag act gtg ctg ggc att gtc tcc aga ggt gaa agg ctg aaa acc ctc Lys Thr Val Leu Gly Ile Val Ser Arg Gly Glu Arg Leu Lys Thr Leu 225 230 235 240	720
agc aca tgc ctc tct cac atg tct acc gtg ctc ctc ttc tat gtt cct	768

Ser Thr Cys Leu Ser His Met Ser Thr Val Leu Leu Phe Tyr Val Pro
 245 250 255

ttt atg ggt gct gcc tcc atg atc cac aga ttt tgg gag cat tta tca 816
 Phe Met Gly Ala Ala Ser Met Ile His Arg Phe Trp Glu His Leu Ser
 260 265 270

cca gta gtg cac atg gtc atg gct gat ata tac cta ctg ctc ccg cct 864
 Pro Val Val His Met Val Met Ala Asp Ile Tyr Leu Leu Leu Pro Pro
 275 280 285

gtg cta aac ccc att gtc tac agt gtg aag acc aag caa att tga 909
 Val Leu Asn Pro Ile Val Tyr Ser Val Lys Thr Lys Gln Ile
 290 295 300

<210> 454
 <211> 302
 <212> PRT
 <213> Homo Sapiens

<400> 454

Met Thr Asn Leu Asn Ala Ser Gln Ala Asn His Arg Asn Phe Ile Leu
 1 5 10 15

Thr Gly Ile Pro Gly Thr Pro Asp Lys Asn Pro Trp Leu Ala Phe Pro
 20 25 30

Leu Gly Phe Leu Tyr Thr Leu Thr Leu Leu Gly Asn Gly Thr Ile Leu
 35 40 45

Ala Val Ile Lys Val Glu Pro Ser Leu His Glu Pro Thr Tyr Tyr Phe
 50 55 60

Leu Ser Ile Leu Ala Leu Thr Asp Val Ser Leu Ser Met Ser Thr Leu
 65 70 75 80

Pro Ser Met Leu Ser Ile Tyr Trp Phe Asn Ala Pro Gln Ile Val Phe
 85 90 95

Asp Ala Cys Ile Met Gln Met Phe Phe Ile His Val Phe Gly Ile Val
 100 105 110

Glu Ser Gly Val Leu Val Ser Met Ala Phe Asp Arg Phe Val Ala Ile
 115 120 125

Arg Asn Pro Leu His Tyr Val Ser Ile Leu Thr His Asp Val Ile Arg
 130 135 140

Lys Thr Gly Ile Ser Val Leu Thr Arg Ala Val Cys Val Val Phe Pro
 145 150 155 160

Val Pro Phe Leu Ile Lys Cys Leu Pro Phe Cys His Ser Asn Val Leu
 165 170 175

Ser His Ser Tyr Cys Leu His Gln Asn Met Met Arg Leu Ala Cys Ala
 180 185 190

Ser Thr Arg Ile Asn Ser Leu Tyr Gly Leu Ile Val Val Ile Phe Thr
 195 200 205

Leu Gly Leu Asp Val Leu Leu Thr Leu Leu Ser Tyr Val Leu Thr Leu
 210 215 220

Lys Thr Val Leu Gly Ile Val Ser Arg Gly Glu Arg Leu Lys Thr Leu
 225 230 235 240

Ser Thr Cys Leu Ser His Met Ser Thr Val Leu Leu Phe Tyr Val Pro
 245 250 255

Phe Met Gly Ala Ala Ser Met Ile His Arg Phe Trp Glu His Leu Ser
 260 265 270

Pro Val Val His Met Val Met Ala Asp Ile Tyr Leu Leu Leu Pro Pro
 275 280 285

Val Leu Asn Pro Ile Val Tyr Ser Val Lys Thr Lys Gln Ile
 290 295 300

<210> 455
 <211> 939
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1) .. (936)
 <223>

<400> 455
 atg tct gtt ctc aat aac tcc gaa gtc aag ctt ttc ctt ctg att ggg 48
 Met Ser Val Leu Asn Asn Ser Glu Val Lys Leu Phe Leu Leu Ile Gly
 1 5 10 15
 atc cca gga ctg gaa cat gcc cac att tgg ttc tcc atc ccc att tgc 96
 Ile Pro Gly Leu Glu His Ala His Ile Trp Phe Ser Ile Pro Ile Cys
 20 25 30
 ctc atg tac ctg ctt gcc atc atg ggc aac tgc acc att ctc ttt att 144
 Leu Met Tyr Leu Leu Ala Ile Met Gly Asn Cys Thr Ile Leu Phe Ile
 35 40 45

ata aag aca gag ccc tcg ctt cat gag ccc atg tat tat ttc ctt gcc Ile Lys Thr Glu Pro Ser Leu His Glu Pro Met Tyr Tyr Phe Leu Ala 50 55 60	192
atg ttg gct gtc tct gac atg ggc ctg tcc ctc tcc tcc ctt cct acc Met Leu Ala Val Ser Asp Met Gly Leu Ser Leu Ser Ser Leu Pro Thr 65 70 75 80	240
atg ttg agg gtc ttc ttg ttc aat gcc atg gga att tca cct aat gcc Met Leu Arg Val Phe Leu Phe Asn Ala Met Gly Ile Ser Pro Asn Ala 85 90 95	288
tgc ttt gct caa gaa ttc ttc att cat gga ttc act gtc atg gaa tcc Cys Phe Ala Gln Glu Phe Phe Ile His Gly Phe Thr Val Met Glu Ser 100 105 110	336
tca gta ctt cta att atg tct ttg gac cgc ttt ctt gcc att cac aat Ser Val Leu Leu Ile Met Ser Leu Asp Arg Phe Leu Ala Ile His Asn 115 120 125	384
ccc tta aga tac agt tct atc ctc act agc aac agg gtt gct aaa atg Pro Leu Arg Tyr Ser Ser Ile Leu Thr Ser Asn Arg Val Ala Lys Met 130 135 140	432
gga ctt att tta gcc att agg agc att ctc tta gtg att cca ttt ccc Gly Leu Ile Leu Ala Ile Arg Ser Ile Leu Leu Val Ile Pro Phe Pro 145 150 155 160	480
ttc acc tta agg aga tta aaa tat tgt caa aag aat ctt ctt tct cac Phe Thr Leu Arg Arg Leu Lys Tyr Cys Gln Lys Asn Leu Leu Ser His 165 170 175	528
tca tac tgt ctt cat cag gat acc atg aag ctg gcc tgc tct gac aac Ser Tyr Cys Leu His Gln Asp Thr Met Lys Leu Ala Cys Ser Asp Asn 180 185 190	576
aag acc aat gtc atc tat ggc ttc ttc att gct ctc tgt act atg ctg Lys Thr Asn Val Ile Tyr Gly Phe Phe Ile Ala Leu Cys Thr Met Leu 195 200 205	624
gac ttg gca ctg att gtt ttg tct tat gtg ctg atc ttg aag act ata Asp Leu Ala Leu Ile Val Leu Ser Tyr Val Leu Ile Leu Lys Thr Ile 210 215 220	672
ctc agc att gca tct ttg gca gag agg ctt aag gcc cta aat acc tgt Leu Ser Ile Ala Ser Leu Ala Glu Arg Leu Lys Ala Leu Asn Thr Cys 225 230 235 240	720
gtc tcc cac atc tgt gct gtg ctc acc ttc tat gtg ccc atc atc acc Val Ser His Ile Cys Ala Val Leu Thr Phe Tyr Val Pro Ile Ile Thr 245 250 255	768
ctg gct gcc atg cat cac ttt gcc aag cac aaa agc cct ctt gtt gtg Leu Ala Ala Met His His Phe Ala Lys His Lys Ser Pro Leu Val Val 260 265 270	816
atc ctt att gca gat atg ttc ttg ttg gtg ccg ccc ctt atg aac ccc Ile Leu Ile Ala Asp Met Phe Leu Leu Val Pro Pro Leu Met Asn Pro 275 280 285	864

att gtg tac tgt gta aag act cga caa atc tgg gag aag atc ttg ggg 912
 ile Val Tyr Cys Val Lys Thr Arg Gln Ile Trp Glu Lys Ile Leu Gly
 290 295 300

aag ttg ctt aat gta tgt ggg aga taa 939
 Lys Leu Leu Asn Val Cys Gly Arg
 305 310

<210> 456

<211> 312

<212> PRT

<213> Homo Sapiens

<400> 456

Met Ser Val Leu Asn Asn Ser Glu Val Lys Leu Phe Leu Leu Ile Gly
 1 5 10 15

Ile Pro Gly Leu Glu His Ala His Ile Trp Phe Ser Ile Pro Ile Cys
 20 25 30

Leu Met Tyr Leu Leu Ala Ile Met Gly Asn Cys Thr Ile Leu Phe Ile
 35 40 45

Ile Lys Thr Glu Pro Ser Leu His Glu Pro Met Tyr Tyr Phe Leu Ala
 50 55 60

Met Leu Ala Val Ser Asp Met Gly Leu Ser Leu Ser Ser Leu Pro Thr
 65 70 75 80

Met Leu Arg Val Phe Leu Phe Asn Ala Met Gly Ile Ser Pro Asn Ala
 85 90 95

Cys Phe Ala Gln Glu Phe Phe Ile His Gly Phe Thr Val Met Glu Ser
 100 105 110

Ser Val Leu Leu Ile Met Ser Leu Asp Arg Phe Leu Ala Ile His Asn
 115 120 125

Pro Leu Arg Tyr Ser Ser Ile Leu Thr Ser Asn Arg Val Ala Lys Met
 130 135 140

Gly Leu Ile Leu Ala Ile Arg Ser Ile Leu Leu Val Ile Pro Phe Pro
 145 150 155 160

Phe Thr Leu Arg Arg Leu Lys Tyr Cys Gln Lys Asn Leu Leu Ser His
 165 170 175

Ser Tyr Cys Leu His Gln Asp Thr Met Lys Leu Ala Cys Ser Asp Asn

180	185	190
Lys Thr Asn Val Ile Tyr Gly Phe Phe Ile Ala Leu Cys Thr Met Leu 195 200 205		
Asp Leu Ala Leu Ile Val Leu Ser Tyr Val Leu Ile Leu Lys Thr Ile 210 215 220		
Leu Ser Ile Ala Ser Leu Ala Glu Arg Leu Lys Ala Leu Asn Thr Cys 225 230 235 240		
Val Ser His Ile Cys Ala Val Leu Thr Phe Tyr Val Pro Ile Ile Thr 245 250 255		
Leu Ala Ala Met His His Phe Ala Lys His Lys Ser Pro Leu Val Val 260 265 270		
Ile Leu Ile Ala Asp Met Phe Leu Leu Val Pro Pro Leu Met Asn Pro 275 280 285		
Ile Val Tyr Cys Val Lys Thr Arg Gln Ile Trp Glu Lys Ile Leu Gly 290 295 300		
Lys Leu Leu Asn Val Cys Gly Arg 305 310		

<210> 457
 <211> 885
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1)..(882)
 <223>

<400> 457	
atg cca cac ctc agc aac acc aca tct gag ttc cca atc ttc ctc cta Met Pro His Leu Ser Asn Thr Thr Ser Glu Phe Pro Ile Phe Leu Leu 1 5 10 15	48
aca ggc ttc cct ggg ctg gag gcc ttc cac atc tgg atc tca att ccc Thr Gly Phe Pro Gly Leu Glu Ala Phe His Ile Trp Ile Ser Ile Pro 20 25 30	96
ttc ttc ctt ctg agc aca gtt gct ctc tta ggg aac agc atg atc cta Phe Phe Leu Leu Ser Thr Val Ala Leu Leu Gly Asn Ser Met Ile Leu 35 40 45	144
ttg gtt gtt att ctg gag cca aac ctc cat gaa ccc atg tac tgt ttt Leu Val Val Ile Leu Glu Pro Asn Leu His Glu Pro Met Tyr Cys Phe	192

50	55	60	
ctc ttc atg ctg tct gcc gct gac ctg ggg ctg acc ctc tcc aca atg Leu Phe Met Leu Ser Ala Ala Asp Leu Gly Leu Thr Leu Ser Thr Met 65 70 75 80			240
ccc acg acc ctc agt gtc ctc tgg ttc agt gca cgt gaa atc atc ctc Pro Thr Thr Leu Ser Val Leu Trp Phe Ser Ala Arg Glu Ile Ile Leu 85 90 95			288
aat gca tgt atc atc cag ctc ttt ttc ctc cac agc tct ggc ttt atg Asn Ala Cys Ile Ile Gln Leu Phe Phe Leu His Ser Ser Gly Phe Met 100 105 110			336
gaa tcc tca gta ctg atg gcc atg gct ttt gac cgc ttt gtt gcc att Glu Ser Ser Val Leu Met Ala Met Ala Phe Asp Arg Phe Val Ala Ile 115 120 125			384
tgc aga ccc ctc aga tat gct acc atc ctg aca gac tcc aga att cta Cys Arg Pro Leu Arg Tyr Ala Thr Ile Leu Thr Asp Ser Arg Ile Leu 130 135 140			432
aag att ggt gta gca ata gtc cta aga aca ttg atc agc ctc tct cca Lys Ile Gly Val Ala Ile Val Leu Arg Thr Leu Ile Ser Leu Ser Pro 145 150 155 160			480
tcc ctc ttt ctc att aag aga ctg tca ttt tgc aaa gtc aat gtc ctt Ser Leu Phe Leu Ile Lys Arg Leu Ser Phe Cys Lys Val Asn Val Leu 165 170 175			528
tcc cat tct tac tgc ttc cac cct gat gcg ctt aaa gtt gca tgt tct Ser His Ser Tyr Cys Phe His Pro Asp Ala Leu Lys Val Ala Cys Ser 180 185 190			576
gat tca agg atg aac agc tat gga ggc tta gct gtt ctc att ctg gtc Asp Ser Arg Met Asn Ser Tyr Gly Gly Leu Ala Val Leu Ile Leu Val 195 200 205			624
acc ggg gtt ggt aca cca tgt gtt gcg ctt tcc tac atc ctg ata atc Thr Gly Val Gly Thr Pro Cys Val Ala Leu Ser Tyr Ile Leu Ile Ile 210 215 220			672
cac tct gta cta aac atc atc tct tca gag gga cgg agg aag gcc ttc His Ser Val Leu Asn Ile Ile Ser Ser Glu Gly Arg Arg Lys Ala Phe 225 230 235 240			720
gac act tgt gga tct cac att ggg gca gtt gca gtc ttc tac att ccc Asp Thr Cys Gly Ser His Ile Gly Ala Val Ala Val Phe Tyr Ile Pro 245 250 255			768
tgg gtt gtt ctt tca gtt gtc cac aga ttt ttc cac aag gct tca cca Trp Val Val Leu Ser Val Val His Arg Phe Phe His Lys Ala Ser Pro 260 265 270			816
ata tgt cca ccc act att gtc caa cat cta ttt cct tgg ccc ctc tcg Ile Cys Pro Pro Thr Ile Val Gln His Leu Phe Pro Trp Pro Leu Ser 275 280 285			864
gct gaa ccc cat cat ata tag Ala Glu Pro His His Ile 290			885

<210> 458
 <211> 294
 <212> PRT
 <213> Homo Sapiens

<400> 458

Met Pro His Leu Ser Asn Thr Thr Ser Glu Phe Pro Ile Phe Leu Leu
 1 5 10 15

Thr Gly Phe Pro Gly Leu Glu Ala Phe His Ile Trp Ile Ser Ile Pro
 20 25 30

Phe Phe Leu Leu Ser Thr Val Ala Leu Leu Gly Asn Ser Met Ile Leu
 35 40 45

Leu Val Val Ile Leu Glu Pro Asn Leu His Glu Pro Met Tyr Cys Phe
 50 55 60

Leu Phe Met Leu Ser Ala Ala Asp Leu Gly Leu Thr Leu Ser Thr Met
 65 70 75 80

Pro Thr Thr Leu Ser Val Leu Trp Phe Ser Ala Arg Glu Ile Ile Leu
 85 90 95

Asn Ala Cys Ile Ile Gln Leu Phe Phe Leu His Ser Ser Gly Phe Met
 100 105 110

Glu Ser Ser Val Leu Met Ala Met Ala Phe Asp Arg Phe Val Ala Ile
 115 120 125

Cys Arg Pro Leu Arg Tyr Ala Thr Ile Leu Thr Asp Ser Arg Ile Leu
 130 135 140

Lys Ile Gly Val Ala Ile Val Leu Arg Thr Leu Ile Ser Leu Ser Pro
 145 150 155 160

Ser Leu Phe Leu Ile Lys Arg Leu Ser Phe Cys Lys Val Asn Val Leu
 165 170 175

Ser His Ser Tyr Cys Phe His Pro Asp Ala Leu Lys Val Ala Cys Ser
 180 185 190

Asp Ser Arg Met Asn Ser Tyr Gly Gly Leu Ala Val Leu Ile Leu Val
 195 200 205

Thr Gly Val Gly Thr Pro Cys Val Ala Leu Ser Tyr Ile Leu Ile Ile
 210 215 220

His Ser Val Leu Asn Ile Ile Ser Ser Glu Gly Arg Arg Lys Ala Phe
 225 230 235 240

Asp Thr Cys Gly Ser His Ile Gly Ala Val Ala Val Phe Tyr Ile Pro
 245 250 255

Trp Val Val Leu Ser Val Val His Arg Phe Phe His Lys Ala Ser Pro
 260 265 270

Ile Cys Pro Pro Thr Ile Val Gln His Leu Phe Pro Trp Pro Leu Ser
 275 280 285

Ala Glu Pro His His Ile
 290

<210> 459
 <211> 984
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1) .. (981)
 <223>

<400> 459
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 Met Ala Ile Phe Asn Asn Thr Thr Ser Ser Ser Ser Asn Phe Leu Leu
 1 5 10 15
 act gca ttc cct ggg ctg gaa tgt gct cat gtc tgg atc tcc att cca 96
 Thr Ala Phe Pro Gly Leu Glu Cys Ala His Val Trp Ile Ser Ile Pro
 20 25 30
 gtc tgc tgt ctc tac acc att gcc ctc ttg gga aac agt atg atc ttt 144
 Val Cys Cys Leu Tyr Thr Ile Ala Leu Leu Gly Asn Ser Met Ile Phe
 35 40 45
 ctt gtc atc att act aag cgg aga ctc cac aaa ccc atg tat tat ttc 192
 Leu Val Ile Ile Thr Lys Arg Arg Leu His Lys Pro Met Tyr Tyr Phe
 50 55 60
 ctc tcc atg ctg gca gct gtt gat cta tgt ctg acc att acg acc ctt 240
 Leu Ser Met Leu Ala Ala Val Asp Leu Cys Leu Thr Ile Thr Thr Leu
 65 70 75 80
 ccc act gtg ctt ggt gtt ctc tgg ttt cat gcc cgg gag atc agc ttt 288
 Pro Thr Val Leu Gly Val Leu Trp Phe His Ala Arg Glu Ile Ser Phe
 85 90 95
 aaa gct tgc ttc att caa atg ttc ttt gtg cat gct ttc tcc ttg ctg 336

Lys	Ala	Cys	Phe	Ile	Gln	Met	Phe	Phe	Val	His	Ala	Phe	Ser	Leu	Leu		
			100					105					110				
gag	tcc	tcg	gtg	ctg	gta	gcc	atg	gcc	ttt	gac	cgc	ttc	gtg	gct	atc		384
Glu	Ser	Ser	Val	Leu	Val	Ala	Met	Ala	Phe	Asp	Arg	Phe	Val	Ala	Ile		
		115					120					125					
tgt	aac	cca	ctg	aac	tat	gct	act	atc	ctc	aca	gac	agg	atg	gtc	ctg		432
Cys	Asn	Pro	Leu	Asn	Tyr	Ala	Thr	Ile	Leu	Thr	Asp	Arg	Met	Val	Leu		
	130					135					140						
gtg	ata	ggg	ctg	gtc	atc	tgc	att	aga	cca	gca	gtt	ttc	tta	ctt	ccc		480
Val	Ile	Gly	Leu	Val	Ile	Cys	Ile	Arg	Pro	Ala	Val	Phe	Leu	Leu	Pro		
145					150					155					160		
ctt	ctt	gta	gcc	ata	aac	act	gtg	tct	ttt	cat	ggg	ggg	cac	gag	ctt		528
Leu	Leu	Val	Ala	Ile	Asn	Thr	Val	Ser	Phe	His	Gly	Gly	His	Glu	Leu		
				165					170					175			
tcc	cat	cca	ttt	tgc	tac	cac	cca	gaa	gtg	atc	aaa	tac	aca	tat	tcc		576
Ser	His	Pro	Phe	Cys	Tyr	His	Pro	Glu	Val	Ile	Lys	Tyr	Thr	Tyr	Ser		
			180					185					190				
aaa	cct	tgg	atc	agc	agt	ttt	tgg	gga	ctg	ttt	ctt	cag	ctc	tac	ctg		624
Lys	Pro	Trp	Ile	Ser	Ser	Phe	Trp	Gly	Leu	Phe	Leu	Gln	Leu	Tyr	Leu		
		195					200					205					
aat	ggc	act	gac	gta	ttg	ttt	att	ctt	ttc	tcc	tat	gtc	ctg	atc	ctc		672
Asn	Gly	Thr	Asp	Val	Leu	Phe	Ile	Leu	Phe	Ser	Tyr	Val	Leu	Ile	Leu		
	210					215					220						
cgt	act	gtt	ctg	ggc	att	gtg	gcc	cga	aag	aag	caa	caa	aaa	gct	ctc		720
Arg	Thr	Val	Leu	Gly	Ile	Val	Ala	Arg	Lys	Lys	Gln	Gln	Lys	Ala	Leu		
225					230					235					240		
agc	act	tgt	gtc	tgt	cac	atc	tgt	gca	gtc	act	att	ttc	tat	gtg	cca		768
Ser	Thr	Cys	Val	Cys	His	Ile	Cys	Ala	Val	Thr	Ile	Phe	Tyr	Val	Pro		
				245					250					255			
ctg	atc	agc	ctc	tct	ttg	gca	cac	cgc	ctc	ttc	cac	tcc	acc	cca	agg		816
Leu	Ile	Ser	Leu	Ser	Leu	Ala	His	Arg	Leu	Phe	His	Ser	Thr	Pro	Arg		
			260					265					270				
gtg	ctc	tgt	agc	act	ttg	gcc	aat	att	tat	ctg	ctc	tta	cca	cct	gtg		864
Val	Leu	Cys	Ser	Thr	Leu	Ala	Asn	Ile	Tyr	Leu	Leu	Leu	Pro	Pro	Val		
		275					280					285					
ctg	aac	cct	atc	att	tac	agc	ttg	aag	acc	aag	aca	atc	cgc	cag	gct		912
Leu	Asn	Pro	Ile	Ile	Tyr	Ser	Leu	Lys	Thr	Lys	Thr	Ile	Arg	Gln	Ala		
	290						295				300						
atg	ttc	cag	ctg	ctc	caa	tcc	aag	ggg	tca	tgg	ggg	ttt	aat	gtg	agg		960
Met	Phe	Gln	Leu	Leu	Gln	Ser	Lys	Gly	Ser	Trp	Gly	Phe	Asn	Val	Arg		
305					310				315					320			
ggg	ctt	agg	gga	aga	tgg	gat	tga										984
Gly	Leu	Arg	Gly	Arg	Trp	Asp											
				325													

<210> 460

<211> 327
 <212> PRT
 <213> Homo Sapiens

<400> 460

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Met Ala Ile Phe Asn Asn Thr Thr Ser Ser Ser Ser Asn Phe Leu Leu
1          5          10          15

Thr Ala Phe Pro Gly Leu Glu Cys Ala His Val Trp Ile Ser Ile Pro
          20          25          30

Val Cys Cys Leu Tyr Thr Ile Ala Leu Leu Gly Asn Ser Met Ile Phe
          35          40          45

Leu Val Ile Ile Thr Lys Arg Arg Leu His Lys Pro Met Tyr Tyr Phe
          50          55          60

Leu Ser Met Leu Ala Ala Val Asp Leu Cys Leu Thr Ile Thr Thr Leu
65          70          75          80

Pro Thr Val Leu Gly Val Leu Trp Phe His Ala Arg Glu Ile Ser Phe
          85          90          95

Lys Ala Cys Phe Ile Gln Met Phe Phe Val His Ala Phe Ser Leu Leu
          100          105          110

Glu Ser Ser Val Leu Val Ala Met Ala Phe Asp Arg Phe Val Ala Ile
          115          120          125

Cys Asn Pro Leu Asn Tyr Ala Thr Ile Leu Thr Asp Arg Met Val Leu
          130          135          140

Val Ile Gly Leu Val Ile Cys Ile Arg Pro Ala Val Phe Leu Leu Pro
145          150          155          160

Leu Leu Val Ala Ile Asn Thr Val Ser Phe His Gly Gly His Glu Leu
          165          170          175

Ser His Pro Phe Cys Tyr His Pro Glu Val Ile Lys Tyr Thr Tyr Ser
          180          185          190

Lys Pro Trp Ile Ser Ser Phe Trp Gly Leu Phe Leu Gln Leu Tyr Leu
          195          200          205

Asn Gly Thr Asp Val Leu Phe Ile Leu Phe Ser Tyr Val Leu Ile Leu
          210          215          220

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Arg Thr Val Leu Gly Ile Val Ala Arg Lys Lys Gln Gln Lys Ala Leu
225 230 235 240

Ser Thr Cys Val Cys His Ile Cys Ala Val Thr Ile Phe Tyr Val Pro
245 250 255

Leu Ile Ser Leu Ser Leu Ala His Arg Leu Phe His Ser Thr Pro Arg
260 265 270

Val Leu Cys Ser Thr Leu Ala Asn Ile Tyr Leu Leu Leu Pro Pro Val
275 280 285

Leu Asn Pro Ile Ile Tyr Ser Leu Lys Thr Lys Thr Ile Arg Gln Ala
290 295 300

Met Phe Gln Leu Leu Gln Ser Lys Gly Ser Trp Gly Phe Asn Val Arg
305 310 315 320

Gly Leu Arg Gly Arg Trp Asp
325

<210> 461

<211> 975

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(972)

<223>

<400> 461

atg ctg ggt cca gct tat aac cac aca atg gaa acc cct gcc tcc ttc 48
Met Leu Gly Pro Ala Tyr Asn His Thr Met Glu Thr Pro Ala Ser Phe
1 5 10 15

ctc ctt gtg ggt atc cca gga ctg caa tct tca cat ctt tgg ctg gct 96
Leu Leu Val Gly Ile Pro Gly Leu Gln Ser Ser His Leu Trp Leu Ala
20 25 30

atc tca ctg agt gcc atg tac atc ata gcc ctg tta gga aac acc atc 144
Ile Ser Leu Ser Ala Met Tyr Ile Ile Ala Leu Leu Gly Asn Thr Ile
35 40 45

atc gtg act gca atc tgg atg gat tcc act cgg cat gag ccc atg tat 192
Ile Val Thr Ala Ile Trp Met Asp Ser Thr Arg His Glu Pro Met Tyr
50 55 60

tgc ttt ctg tgt gtt ctg gct gct gtg gac att gtt atg gcc tcc tcg 240
Cys Phe Leu Cys Val Leu Ala Ala Val Asp Ile Val Met Ala Ser Ser
65 70 75 80

gtg gta ccc aag atg gtg agc atc ttc tgc tca gga gac agc tca atc Val Val Pro Lys Met Val Ser Ile Phe Cys Ser Gly Asp Ser Ser Ile 85 90 95	288
agc ttt agt gct tgt ttc act cag atg ttt ttt gtc cac tta gcc aca Ser Phe Ser Ala Cys Phe Thr Gln Met Phe Phe Val His Leu Ala Thr 100 105 110	336
gct gtg gag acg ggg ctg ctg ctg acc atg gct ttt gac cgc tat gta Ala Val Glu Thr Gly Leu Leu Leu Thr Met Ala Phe Asp Arg Tyr Val 115 120 125	384
gcc atc tgc aag cct cta cac tac aag aga att ctc acg cct caa gtg Ala Ile Cys Lys Pro Leu His Tyr Lys Arg Ile Leu Thr Pro Gln Val 130 135 140	432
atg ctg gga atg agt atg gcc atc acc atc aga gct atc ata gcc ata Met Leu Gly Met Ser Met Ala Ile Thr Ile Arg Ala Ile Ile Ala Ile 145 150 155 160	480
act cca ctg agt tgg atg gtg agt cat cta cct ttc tgt ggc tcc aat Thr Pro Leu Ser Trp Met Val Ser His Leu Pro Phe Cys Gly Ser Asn 165 170 175	528
gtg gtt gtc cac tcc tac tgt gag cac ata gct ttg gcc agg tta gca Val Val Val His Ser Tyr Cys Glu His Ile Ala Leu Ala Arg Leu Ala 180 185 190	576
tgt gct gac ccc gtg ccc agc agt ctc tac agt ctg att ggt tcc tct Cys Ala Asp Pro Val Pro Ser Ser Leu Tyr Ser Leu Ile Gly Ser Ser 195 200 205	624
ctt atg gtg ggc tct gat gtg gcc ttc att gct gcc tcc tat atc tta Leu Met Val Gly Ser Asp Val Ala Phe Ile Ala Ala Ser Tyr Ile Leu 210 215 220	672
att ctc aag gca gta ttt ggt ctc tcc tca aag act gct cag ttg aaa Ile Leu Lys Ala Val Phe Gly Leu Ser Ser Lys Thr Ala Gln Leu Lys 225 230 235 240	720
gca tta agc aca tgt ggc tcc cat gtg ggg gtt atg gct ttg tac tat Ala Leu Ser Thr Cys Gly Ser His Val Gly Val Met Ala Leu Tyr Tyr 245 250 255	768
cta cct ggg atg gca tcc atc tat gcg gcc tgg ttg ggg cag gat gta Leu Pro Gly Met Ala Ser Ile Tyr Ala Ala Trp Leu Gly Gln Asp Val 260 265 270	816
gtg ccc ttg cac acc caa gtc ctg cta gct gac ctg tac gtg atc atc Val Pro Leu His Thr Gln Val Leu Leu Ala Asp Leu Tyr Val Ile Ile 275 280 285	864
cca gcc acc tta aat ccc atc atc tat ggc atg agg acc aaa caa ctg Pro Ala Thr Leu Asn Pro Ile Ile Tyr Gly Met Arg Thr Lys Gln Leu 290 295 300	912
cgg gag aga ata tgg agt tat ctg atg cat gtc ctc ttt gac cat tcc Arg Glu Arg Ile Trp Ser Tyr Leu Met His Val Leu Phe Asp His Ser 305 310 315 320	960
aac ctg ggt tca tga	975

Asn Leu Gly Ser

<210> 462
 <211> 324
 <212> PRT
 <213> Homo Sapiens

<400> 462

Met Leu Gly Pro Ala Tyr Asn His Thr Met Glu Thr Pro Ala Ser Phe
 1 5 10 15

Leu Leu Val Gly Ile Pro Gly Leu Gln Ser Ser His Leu Trp Leu Ala
 20 25 30

Ile Ser Leu Ser Ala Met Tyr Ile Ile Ala Leu Leu Gly Asn Thr Ile
 35 40 45

Ile Val Thr Ala Ile Trp Met Asp Ser Thr Arg His Glu Pro Met Tyr
 50 55 60

Cys Phe Leu Cys Val Leu Ala Ala Val Asp Ile Val Met Ala Ser Ser
 65 70 75 80

Val Val Pro Lys Met Val Ser Ile Phe Cys Ser Gly Asp Ser Ser Ile
 85 90 95

Ser Phe Ser Ala Cys Phe Thr Gln Met Phe Phe Val His Leu Ala Thr
 100 105 110

Ala Val Glu Thr Gly Leu Leu Leu Thr Met Ala Phe Asp Arg Tyr Val
 115 120 125

Ala Ile Cys Lys Pro Leu His Tyr Lys Arg Ile Leu Thr Pro Gln Val
 130 135 140

Met Leu Gly Met Ser Met Ala Ile Thr Ile Arg Ala Ile Ile Ala Ile
 145 150 155 160

Thr Pro Leu Ser Trp Met Val Ser His Leu Pro Phe Cys Gly Ser Asn
 165 170 175

Val Val Val His Ser Tyr Cys Glu His Ile Ala Leu Ala Arg Leu Ala
 180 185 190

Cys Ala Asp Pro Val Pro Ser Ser Leu Tyr Ser Leu Ile Gly Ser Ser
 195 200 205

Leu Met Val Gly Ser Asp Val Ala Phe Ile Ala Ala Ser Tyr Ile Leu
 210 215 220

Ile Leu Lys Ala Val Phe Gly Leu Ser Ser Lys Thr Ala Gln Leu Lys
 225 230 235 240

Ala Leu Ser Thr Cys Gly Ser His Val Gly Val Met Ala Leu Tyr Tyr
 245 250 255

Leu Pro Gly Met Ala Ser Ile Tyr Ala Ala Trp Leu Gly Gln Asp Val
 260 265 270

Val Pro Leu His Thr Gln Val Leu Leu Ala Asp Leu Tyr Val Ile Ile
 275 280 285

Pro Ala Thr Leu Asn Pro Ile Ile Tyr Gly Met Arg Thr Lys Gln Leu
 290 295 300

Arg Glu Arg Ile Trp Ser Tyr Leu Met His Val Leu Phe Asp His Ser
 305 310 315 320

Asn Leu Gly Ser

<210> 463
 <211> 963
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1)..(960)
 <223>

<400> 463
 atg agt tcc tgc aac ttc aca cat gcc acc ttt gtg ctt att ggt atc 48
 Met Ser Ser Cys Asn Phe Thr His Ala Thr Phe Val Leu Ile Gly Ile
 1 5 10 15
 cca gga tta gag aaa gcc cat ttc tgg gtt ggc ttc ccc ctc ctt tcc 96
 Pro Gly Leu Glu Lys Ala His Phe Trp Val Gly Phe Pro Leu Leu Ser
 20 25 30
 atg tat gta gtg gca atg ttt gga aac tgc atc gtg gtc ttc atc gta 144
 Met Tyr Val Val Ala Met Phe Gly Asn Cys Ile Val Val Phe Ile Val
 35 40 45
 agg acg gaa cgc agc ctg cac gct ccg atg tac ctc ttt ctc tgc atg 192
 Arg Thr Glu Arg Ser Leu His Ala Pro Met Tyr Leu Phe Leu Cys Met
 50 55 60

ctt gca gcc att gac ctg gcc tta tcc aca tcc acc atg cct aag atc Leu Ala Ala Ile Asp Leu Ala Leu Ser Thr Ser Thr Met Pro Lys Ile 65 70 75 80	240
ctt gcc ctt ttc tgg ttt gat tcc cga gag att agc ttt gag gcc tgt Leu Ala Leu Phe Trp Phe Asp Ser Arg Glu Ile Ser Phe Glu Ala Cys 85 90 95	288
ctt acc cag atg ttc ttt att cat gcc ctc tca gcc att gaa tcc acc Leu Thr Gln Met Phe Phe Ile His Ala Leu Ser Ala Ile Glu Ser Thr 100 105 110	336
atc ctg ctg gcc atg gcc ttt gac cgt tat gtg gcc atc tgc cac cca Ile Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile Cys His Pro 115 120 125	384
ctg cgc cat gct gca gtg ctc aac aat aca gta aca gcc cag att ggc Leu Arg His Ala Ala Val Leu Asn Asn Thr Val Thr Ala Gln Ile Gly 130 135 140	432
atc gtg gct gtg gtc cgc gga tcc ctc ttt ttt ttc cca ctg cct ctg Ile Val Ala Val Val Arg Gly Ser Leu Phe Phe Phe Pro Leu Pro Leu 145 150 155 160	480
ctg atc aag cgg ctg gcc ttc tgc cac tcc aat gtc ctc tcg cac tcc Leu Ile Lys Arg Leu Ala Phe Cys His Ser Asn Val Leu Ser His Ser 165 170 175	528
tat tgt gtc cac cag gat gta atg aag ttg gcc tat gca gac act ttg Tyr Cys Val His Gln Asp Val Met Lys Leu Ala Tyr Ala Asp Thr Leu 180 185 190	576
ccc aat gtg gta tat ggt ctt act gcc att ctg ctg gtc atg ggc gtg Pro Asn Val Val Tyr Gly Leu Thr Ala Ile Leu Leu Val Met Gly Val 195 200 205	624
gac gta atg ttc atc tcc ttg tcc tat ttt ctg ata ata cga acg gtt Asp Val Met Phe Ile Ser Leu Ser Tyr Phe Leu Ile Ile Arg Thr Val 210 215 220	672
ctg caa ctg cct tcc aag tca gag cgg gcc aag gcc ttt gga acc tgt Leu Gln Leu Pro Ser Lys Ser Glu Arg Ala Lys Ala Phe Gly Thr Cys 225 230 235 240	720
gtg tca cac att ggt gtg gta ctc gcc ttc tat gtg cca ctt att ggc Val Ser His Ile Gly Val Val Leu Ala Phe Tyr Val Pro Leu Ile Gly 245 250 255	768
ctc tca gtg gta cac cgc ttt gga aac agc ctt cat ccc att gtg cgt Leu Ser Val Val His Arg Phe Gly Asn Ser Leu His Pro Ile Val Arg 260 265 270	816
gtt gtc atg ggt gac atc tac ctg ctg ctg cct cct gtc atc aat ccc Val Val Met Gly Asp Ile Tyr Leu Leu Leu Pro Pro Val Ile Asn Pro 275 280 285	864
atc atc tat ggt gcc aaa acc aaa cag atc aga aca cgg gtg ctg gct Ile Ile Tyr Gly Ala Lys Thr Lys Gln Ile Arg Thr Arg Val Leu Ala 290 295 300	912

atg ttc aag atc agc tgt gac aag gac ttg cag gct gtg gga ggc aag 960
 Met Phe Lys Ile Ser Cys Asp Lys Asp Leu Gln Ala Val Gly Gly Lys
 305 310 315 320

tga 963

<210> 464
 <211> 320
 <212> PRT
 <213> Homo Sapiens

<400> 464

Met Ser Ser Cys Asn Phe Thr His Ala Thr Phe Val Leu Ile Gly Ile
 1 5 10 15

Pro Gly Leu Glu Lys Ala His Phe Trp Val Gly Phe Pro Leu Leu Ser
 20 25 30

Met Tyr Val Val Ala Met Phe Gly Asn Cys Ile Val Val Phe Ile Val
 35 40 45

Arg Thr Glu Arg Ser Leu His Ala Pro Met Tyr Leu Phe Leu Cys Met
 50 55 60

Leu Ala Ala Ile Asp Leu Ala Leu Ser Thr Ser Thr Met Pro Lys Ile
 65 70 75 80

Leu Ala Leu Phe Trp Phe Asp Ser Arg Glu Ile Ser Phe Glu Ala Cys
 85 90 95

Leu Thr Gln Met Phe Phe Ile His Ala Leu Ser Ala Ile Glu Ser Thr
 100 105 110

Ile Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile Cys His Pro
 115 120 125

Leu Arg His Ala Ala Val Leu Asn Asn Thr Val Thr Ala Gln Ile Gly
 130 135 140

Ile Val Ala Val Val Arg Gly Ser Leu Phe Phe Phe Pro Leu Pro Leu
 145 150 155 160

Leu Ile Lys Arg Leu Ala Phe Cys His Ser Asn Val Leu Ser His Ser
 165 170 175

Tyr Cys Val His Gln Asp Val Met Lys Leu Ala Tyr Ala Asp Thr Leu
 180 185 190

Pro Asn Val Val Tyr Gly Leu Thr Ala Ile Leu Leu Val Met Gly Val
195 200 205

Asp Val Met Phe Ile Ser Leu Ser Tyr Phe Leu Ile Ile Arg Thr Val
210 215 220

Leu Gln Leu Pro Ser Lys Ser Glu Arg Ala Lys Ala Phe Gly Thr Cys
225 230 235 240

Val Ser His Ile Gly Val Val Leu Ala Phe Tyr Val Pro Leu Ile Gly
245 250 255

Leu Ser Val Val His Arg Phe Gly Asn Ser Leu His Pro Ile Val Arg
260 265 270

Val Val Met Gly Asp Ile Tyr Leu Leu Leu Pro Pro Val Ile Asn Pro
275 280 285

Ile Ile Tyr Gly Ala Lys Thr Lys Gln Ile Arg Thr Arg Val Leu Ala
290 295 300

Met Phe Lys Ile Ser Cys Asp Lys Asp Leu Gln Ala Val Gly Gly Lys
305 310 315 320

<210> 465
<211> 957
<212> DNA
<213> Homo Sapiens

<220>
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Met Met Val Asp Pro Asn Gly Asn Glu Ser Ser Ala Thr Tyr Phe Ile
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cta ata ggc ctc cct ggt tta gaa gag gct cag ttc tgg ttg gcc ttc 96
Leu Ile Gly Leu Pro Gly Leu Glu Glu Ala Gln Phe Trp Leu Ala Phe
20 25 30

cca ttg tgc tcc ctc tac ctt att gct gtg cta ggt aac ttg aca atc 144
Pro Leu Cys Ser Leu Tyr Leu Ile Ala Val Leu Gly Asn Leu Thr Ile
35 40 45

atc tac att gtg cgg act gag cac agc ctg cat gag ccc atg tat ata 192
Ile Tyr Ile Val Arg Thr Glu His Ser Leu His Glu Pro Met Tyr Ile
50 55 60

ttt ctt tgc atg ctt tca ggc att gac atc ctc atc tcc acc tca tcc	240
Phe Leu Cys Met Leu Ser Gly Ile Asp Ile Leu Ile Ser Thr Ser Ser	
65 70 75 80	
atg ccc aaa atg ctg gcc atc ttc tgg ttc aat tcc act acc atc cag	288
Met Pro Lys Met Leu Ala Ile Phe Trp Phe Asn Ser Thr Thr Ile Gln	
85 90 95	
ttt gat gct tgt ctg cta cag atg ttt gcc atc cac tcc tta tct ggc	336
Phe Asp Ala Cys Leu Leu Gln Met Phe Ala Ile His Ser Leu Ser Gly	
100 105 110	
atg gaa tcc aca gtg ctg ctg gcc atg gct ttt gac cgc tat gtg gcc	384
Met Glu Ser Thr Val Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala	
115 120 125	
atc tgt cac cca ctg cgc cat gcc aca gta ctt acg ttg cct cgt gtc	432
Ile Cys His Pro Leu Arg His Ala Thr Val Leu Thr Leu Pro Arg Val	
130 135 140	
acc aaa att ggt gtg gct gct gtg gtg cgg ggg gct gca ctg atg gca	480
Thr Lys Ile Gly Val Ala Ala Val Val Arg Gly Ala Ala Leu Met Ala	
145 150 155 160	
ccc ctt cct gtc ttc atc aag cag ctg ccc ttc tgc cgc tcc aat atc	528
Pro Leu Pro Val Phe Ile Lys Gln Leu Pro Phe Cys Arg Ser Asn Ile	
165 170 175	
ctt tcc cat tcc tac tgc cta cac caa gat gtc atg aag ctg gcc tgt	576
Leu Ser His Ser Tyr Cys Leu His Gln Asp Val Met Lys Leu Ala Cys	
180 185 190	
gat gat atc cgg gtc aat gtc gtc tat ggc ctt atc gtc atc atc tcc	624
Asp Asp Ile Arg Val Asn Val Val Tyr Gly Leu Ile Val Ile Ile Ser	
195 200 205	
gcc att ggc ctg gac tca ctt ctc atc tcc ttc tca tat ctg ctt att	672
Ala Ile Gly Leu Asp Ser Leu Leu Ile Ser Phe Ser Tyr Leu Leu Ile	
210 215 220	
ctt aag act gtg ttg ggc ttg aca cgt gaa gcc cag gcc aag gca ttt	720
Leu Lys Thr Val Leu Gly Leu Thr Arg Glu Ala Gln Ala Lys Ala Phe	
225 230 235 240	
ggc act tgc gtc tct cat gtg tgt gct gtg ttc ata ttc tat gta cct	768
Gly Thr Cys Val Ser His Val Cys Ala Val Phe Ile Phe Tyr Val Pro	
245 250 255	
ttc att gga ttg tcc atg gtg cat cgc ttt agc aag cgg cgt gac tct	816
Phe Ile Gly Leu Ser Met Val His Arg Phe Ser Lys Arg Arg Asp Ser	
260 265 270	
ccg ctg ccc gtc atc ttg gcc aat atc tat ctg ctg gtt cct cct gtg	864
Pro Leu Pro Val Ile Leu Ala Asn Ile Tyr Leu Leu Val Pro Pro Val	
275 280 285	
ctc aac cca att gtc tat gga gtg aag aca aag gag att cga cag cgc	912
Leu Asn Pro Ile Val Tyr Gly Val Lys Thr Lys Glu Ile Arg Gln Arg	
290 295 300	
atc ctt cga ctt ttc cat gtg gcc aca cac gct tca gag ccc tag	957

Ile Leu Arg Leu Phe His Val Ala Thr His Ala Ser Glu Pro
 305 310 315

<210> 466
 <211> 318
 <212> PRT
 <213> Homo Sapiens

<400> 466

Met Met Val Asp Pro Asn Gly Asn Glu Ser Ser Ala Thr Tyr Phe Ile
 1 5 10 15

Leu Ile Gly Leu Pro Gly Leu Glu Glu Ala Gln Phe Trp Leu Ala Phe
 20 25 30

Pro Leu Cys Ser Leu Tyr Leu Ile Ala Val Leu Gly Asn Leu Thr Ile
 35 40 45

Ile Tyr Ile Val Arg Thr Glu His Ser Leu His Glu Pro Met Tyr Ile
 50 55 60

Phe Leu Cys Met Leu Ser Gly Ile Asp Ile Leu Ile Ser Thr Ser Ser
 65 70 75 80

Met Pro Lys Met Leu Ala Ile Phe Trp Phe Asn Ser Thr Thr Ile Gln
 85 90 95

Phe Asp Ala Cys Leu Leu Gln Met Phe Ala Ile His Ser Leu Ser Gly
 100 105 110

Met Glu Ser Thr Val Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala
 115 120 125

Ile Cys His Pro Leu Arg His Ala Thr Val Leu Thr Leu Pro Arg Val
 130 135 140

Thr Lys Ile Gly Val Ala Ala Val Val Arg Gly Ala Ala Leu Met Ala
 145 150 155 160

Pro Leu Pro Val Phe Ile Lys Gln Leu Pro Phe Cys Arg Ser Asn Ile
 165 170 175

Leu Ser His Ser Tyr Cys Leu His Gln Asp Val Met Lys Leu Ala Cys
 180 185 190

Asp Asp Ile Arg Val Asn Val Val Tyr Gly Leu Ile Val Ile Ile Ser
 195 200 205

Ala Ile Gly Leu Asp Ser Leu Leu Ile Ser Phe Ser Tyr Leu Leu Ile
 210 215 220

Leu Lys Thr Val Leu Gly Leu Thr Arg Glu Ala Gln Ala Lys Ala Phe
 225 230 235 240

Gly Thr Cys Val Ser His Val Cys Ala Val Phe Ile Phe Tyr Val Pro
 245 250 255

Phe Ile Gly Leu Ser Met Val His Arg Phe Ser Lys Arg Arg Asp Ser
 260 265 270

Pro Leu Pro Val Ile Leu Ala Asn Ile Tyr Leu Leu Val Pro Pro Val
 275 280 285

Leu Asn Pro Ile Val Tyr Gly Val Lys Thr Lys Glu Ile Arg Gln Arg
 290 295 300

Ile Leu Arg Leu Phe His Val Ala Thr His Ala Ser Glu Pro
 305 310 315

<210> 467
 <211> 975
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1)..(972)
 <223>

<400> 467
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 Met Leu Gly Pro Ala Tyr Asn His Thr Met Glu Thr Pro Ala Ser Phe
 1 5 10 15
 ctc ctt gtg ggt atc cca gga ctg caa tct tca cat ctt tgg ctg gct 96
 Leu Leu Val Gly Ile Pro Gly Leu Gln Ser Ser His Leu Trp Leu Ala
 20 25 30
 atc tca ctg agt gcc atg tac atc ata gcc ctg tta gga aac acc atc 144
 Ile Ser Leu Ser Ala Met Tyr Ile Ile Ala Leu Leu Gly Asn Thr Ile
 35 40 45
 atc gtg act gca atc tgg atg gat tcc act cgg cat gag ccc atg tat 192
 Ile Val Thr Ala Ile Trp Met Asp Ser Thr Arg His Glu Pro Met Tyr
 50 55 60
 tgc ttt ctg tgt gtt ctg gct gct gtg gac att gtt atg gcc tcc tcg 240
 Cys Phe Leu Cys Val Leu Ala Ala Val Asp Ile Val Met Ala Ser Ser
 65 70 75 80

gtg gta ccc aag atg gtg agc atc ttc tgc tca gga gac agc tca atc	288
Val Val Pro Lys Met Val Ser Ile Phe Cys Ser Gly Asp Ser Ser Ile	
85 90 95	
agc ttt agt gct tgt ttc act cag atg ttt ttt gtc cac tta gcc aca	336
Ser Phe Ser Ala Cys Phe Thr Gln Met Phe Phe Val His Leu Ala Thr	
100 105 110	
gct gtg gag acg ggg ctg ctg ctg acc atg gct ttt gac cgc tat gta	384
Ala Val Glu Thr Gly Leu Leu Leu Thr Met Ala Phe Asp Arg Tyr Val	
115 120 125	
gcc atc tgc aag cct cta cac tac aag aga att ctc acg cct caa gtg	432
Ala Ile Cys Lys Pro Leu His Tyr Lys Arg Ile Leu Thr Pro Gln Val	
130 135 140	
atg ctg gga atg agt atg gcc atc acc atc aga gct atc ata gcc ata	480
Met Leu Gly Met Ser Met Ala Ile Thr Ile Arg Ala Ile Ile Ala Ile	
145 150 155 160	
act cca ctg agt tgg atg gtg agt cat cta cct ttc tgt ggc tcc aat	528
Thr Pro Leu Ser Trp Met Val Ser His Leu Pro Phe Cys Gly Ser Asn	
165 170 175	
gtg gtt gtc cac tcc tac tgt gag cac ata gct ttg gcc agg tta gca	576
Val Val Val His Ser Tyr Cys Glu His Ile Ala Leu Ala Arg Leu Ala	
180 185 190	
tgt gct gac ccc gtg ccc agc agt ctc tac agt ctg att ggt tcc tct	624
Cys Ala Asp Pro Val Pro Ser Ser Leu Tyr Ser Leu Ile Gly Ser Ser	
195 200 205	
ctt atg gtg ggc tct gat gtg gcc ttc att gct gcc tcc tat atc tta	672
Leu Met Val Gly Ser Asp Val Ala Phe Ile Ala Ala Ser Tyr Ile Leu	
210 215 220	
att ctc aag gca gta ttt ggt ctc tcc tca aag act gct cag ttg aaa	720
Ile Leu Lys Ala Val Phe Gly Leu Ser Ser Lys Thr Ala Gln Leu Lys	
225 230 235 240	
gca tta agc aca tgt ggc tcc cat gtg ggg gtt atg gct ttg tac tat	768
Ala Leu Ser Thr Cys Gly Ser His Val Gly Val Met Ala Leu Tyr Tyr	
245 250 255	
cta cct ggg atg gca tcc atc tat gcg gcc tgg ttg ggg cag gat gta	816
Leu Pro Gly Met Ala Ser Ile Tyr Ala Ala Trp Leu Gly Gln Asp Val	
260 265 270	
gtg ccc ttg cac acc caa gtc ctg cta gct gac ctg tac gtg atc atc	864
Val Pro Leu His Thr Gln Val Leu Leu Ala Asp Leu Tyr Val Ile Ile	
275 280 285	
cca gcc acc tta aat ccc atc atc tat ggc atg agg acc aaa caa ctg	912
Pro Ala Thr Leu Asn Pro Ile Ile Tyr Gly Met Arg Thr Lys Gln Leu	
290 295 300	
cgg gag aga ata tgg agt tat ctg atg cat gtc ctc ttt gac cat tcc	960
Arg Glu Arg Ile Trp Ser Tyr Leu Met His Val Leu Phe Asp His Ser	
305 310 315 320	

aac ctg ggt tca tga
Asn Leu Gly Ser

975

<210> 468
<211> 324
<212> PRT
<213> Homo Sapiens

<400> 468

Met Leu Gly Pro Ala Tyr Asn His Thr Met Glu Thr Pro Ala Ser Phe
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Leu Leu Val Gly Ile Pro Gly Leu Gln Ser Ser His Leu Trp Leu Ala
20 25 30

Ile Ser Leu Ser Ala Met Tyr Ile Ile Ala Leu Leu Gly Asn Thr Ile
35 40 45

Ile Val Thr Ala Ile Trp Met Asp Ser Thr Arg His Glu Pro Met Tyr
50 55 60

Cys Phe Leu Cys Val Leu Ala Ala Val Asp Ile Val Met Ala Ser Ser
65 70 75 80

Val Val Pro Lys Met Val Ser Ile Phe Cys Ser Gly Asp Ser Ser Ile
85 90 95

Ser Phe Ser Ala Cys Phe Thr Gln Met Phe Phe Val His Leu Ala Thr
100 105 110

Ala Val Glu Thr Gly Leu Leu Leu Thr Met Ala Phe Asp Arg Tyr Val
115 120 125

Ala Ile Cys Lys Pro Leu His Tyr Lys Arg Ile Leu Thr Pro Gln Val
130 135 140

Met Leu Gly Met Ser Met Ala Ile Thr Ile Arg Ala Ile Ile Ala Ile
145 150 155 160

Thr Pro Leu Ser Trp Met Val Ser His Leu Pro Phe Cys Gly Ser Asn
165 170 175

Val Val Val His Ser Tyr Cys Glu His Ile Ala Leu Ala Arg Leu Ala
180 185 190

Cys Ala Asp Pro Val Pro Ser Ser Leu Tyr Ser Leu Ile Gly Ser Ser

195 200 205
 Leu Met Val Gly Ser Asp Val Ala Phe Ile Ala Ala Ser Tyr Ile Leu
 210 215 220
 Ile Leu Lys Ala Val Phe Gly Leu Ser Ser Lys Thr Ala Gln Leu Lys
 225 230 235 240
 Ala Leu Ser Thr Cys Gly Ser His Val Gly Val Met Ala Leu Tyr Tyr
 245 250 255
 Leu Pro Gly Met Ala Ser Ile Tyr Ala Ala Trp Leu Gly Gln Asp Val
 260 265 270
 Val Pro Leu His Thr Gln Val Leu Leu Ala Asp Leu Tyr Val Ile Ile
 275 280 285
 Pro Ala Thr Leu Asn Pro Ile Ile Tyr Gly Met Arg Thr Lys Gln Leu
 290 295 300
 Arg Glu Arg Ile Trp Ser Tyr Leu Met His Val Leu Phe Asp His Ser
 305 310 315 320
 Asn Leu Gly Ser

<210> 469
 <211> 975
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1)..(972)
 <223>

<400> 469
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 Met Leu Gly Pro Ala Tyr Asn His Thr Met Glu Thr Pro Ala Ser Phe
 1 5 10 15
 ctc ctt gtg ggt atc cca gga ctg caa tct tca cat ctt tgg ctg gct 96
 Leu Leu Val Gly Ile Pro Gly Leu Gln Ser Ser His Leu Trp Leu Ala
 20 25 30
 atc tca ctg agt gcc atg tac atc aca gcc ctg tta gga aac acc ctc 144
 Ile Ser Leu Ser Ala Met Tyr Ile Thr Ala Leu Leu Gly Asn Thr Leu
 35 40 45
 atc gtg act gca atc tgg atg gat tcc act cgg cat gag ccc atg tat 192
 Ile Val Thr Ala Ile Trp Met Asp Ser Thr Arg His Glu Pro Met Tyr

50	55	60	
tgc ttt ctg tgt gtt ctg gct gct gtg gac att gtt atg gcc tcc tcc Cys Phe Leu Cys Val Leu Ala Ala Val Asp Ile Val Met Ala Ser Ser 65 70 75 80			240
gtg gta ccc aag atg gtg agc atc ttc tgc tgc gga gac agc tcc atc Val Val Pro Lys Met Val Ser Ile Phe Cys Ser Gly Asp Ser Ser Ile 85 90 95			288
agc ttt agt gct tgt ttc act cag atg ttt ttt gtc cac tta gcc aca Ser Phe Ser Ala Cys Phe Thr Gln Met Phe Phe Val His Leu Ala Thr 100 105 110			336
gct gtg gag acg ggg ctg ctg ctg acc atg gct ttt gac cgc tat gta Ala Val Glu Thr Gly Leu Leu Leu Thr Met Ala Phe Asp Arg Tyr Val 115 120 125			384
gcc atc tgc aag cct cta cac tac aag aga att ctc acg cct caa gtg Ala Ile Cys Lys Pro Leu His Tyr Lys Arg Ile Leu Thr Pro Gln Val 130 135 140			432
atg ctg gga atg agt atg gcc gtc acc atc aga gct gtc aca ttc atg Met Leu Gly Met Ser Met Ala Val Thr Ile Arg Ala Val Thr Phe Met 145 150 155 160			480
act cca ctg agt tgg atg atg aat cat cta cct ttc tgt ggc tcc aat Thr Pro Leu Ser Trp Met Met Asn His Leu Pro Phe Cys Gly Ser Asn 165 170 175			528
gtg gtt gtc cac tcc tac tgt aag cac ata gct ttg gcc agg tta gca Val Val Val His Ser Tyr Cys Lys His Ile Ala Leu Ala Arg Leu Ala 180 185 190			576
tgt gct gac ccc gtg ccc agc agt ctc tac agt ctg att ggt tcc tct Cys Ala Asp Pro Val Pro Ser Ser Leu Tyr Ser Leu Ile Gly Ser Ser 195 200 205			624
ctt atg gtg ggc tct gat gtg gcc ttc att gct gcc tcc tat atc tta Leu Met Val Gly Ser Asp Val Ala Phe Ile Ala Ala Ser Tyr Ile Leu 210 215 220			672
att ctc agg gca gta ttt gat ctc tcc tca aag act gct cag ttg aaa Ile Leu Arg Ala Val Phe Asp Leu Ser Ser Lys Thr Ala Gln Leu Lys 225 230 235 240			720
gca tta agc aca tgt ggc tcc cat gtg ggg gtt atg gct ttg tac tat Ala Leu Ser Thr Cys Gly Ser His Val Gly Val Met Ala Leu Tyr Tyr 245 250 255			768
cta cct ggg atg gca tcc atc tat gcg gcc tgg ttg ggg cag gat ata Leu Pro Gly Met Ala Ser Ile Tyr Ala Ala Trp Leu Gly Gln Asp Ile 260 265 270			816
gtg ccc ttg cac acc caa gtg ctg cta gct gac ctg tac gtg atc atc Val Pro Leu His Thr Gln Val Leu Leu Ala Asp Leu Tyr Val Ile Ile 275 280 285			864
cca gcc act tta aat ccc atc atc tat ggc atg agg acc aaa caa ttg Pro Ala Thr Leu Asn Pro Ile Ile Tyr Gly Met Arg Thr Lys Gln Leu 290 295 300			912

ctg gag gga ata tgg agt tat ctg atg cac ttc ctc ttt gac cac tcc 960
 Leu Glu Gly Ile Trp Ser Tyr Leu Met His Phe Leu Phe Asp His Ser
 305 310 315 320

aac ctg ggt tca tga 975
 Asn Leu Gly Ser

<210> 470
 <211> 324
 <212> PRT
 <213> Homo Sapiens

<400> 470

Met Leu Gly Pro Ala Tyr Asn His Thr Met Glu Thr Pro Ala Ser Phe
 1 5 10 15

Leu Leu Val Gly Ile Pro Gly Leu Gln Ser Ser His Leu Trp Leu Ala
 20 25 30

Ile Ser Leu Ser Ala Met Tyr Ile Thr Ala Leu Leu Gly Asn Thr Leu
 35 40 45

Ile Val Thr Ala Ile Trp Met Asp Ser Thr Arg His Glu Pro Met Tyr
 50 55 60

Cys Phe Leu Cys Val Leu Ala Ala Val Asp Ile Val Met Ala Ser Ser
 65 70 75 80

Val Val Pro Lys Met Val Ser Ile Phe Cys Ser Gly Asp Ser Ser Ile
 85 90 95

Ser Phe Ser Ala Cys Phe Thr Gln Met Phe Phe Val His Leu Ala Thr
 100 105 110

Ala Val Glu Thr Gly Leu Leu Leu Thr Met Ala Phe Asp Arg Tyr Val
 115 120 125

Ala Ile Cys Lys Pro Leu His Tyr Lys Arg Ile Leu Thr Pro Gln Val
 130 135 140

Met Leu Gly Met Ser Met Ala Val Thr Ile Arg Ala Val Thr Phe Met
 145 150 155 160

Thr Pro Leu Ser Trp Met Met Asn His Leu Pro Phe Cys Gly Ser Asn
 165 170 175

Val Val Val His Ser Tyr Cys Lys His Ile Ala Leu Ala Arg Leu Ala
180 185 190

Cys Ala Asp Pro Val Pro Ser Ser Leu Tyr Ser Leu Ile Gly Ser Ser
195 200 205

Leu Met Val Gly Ser Asp Val Ala Phe Ile Ala Ala Ser Tyr Ile Leu
210 215 220

Ile Leu Arg Ala Val Phe Asp Leu Ser Ser Lys Thr Ala Gln Leu Lys
225 230 235 240

Ala Leu Ser Thr Cys Gly Ser His Val Gly Val Met Ala Leu Tyr Tyr
245 250 255

Leu Pro Gly Met Ala Ser Ile Tyr Ala Ala Trp Leu Gly Gln Asp Ile
260 265 270

Val Pro Leu His Thr Gln Val Leu Leu Ala Asp Leu Tyr Val Ile Ile
275 280 285

Pro Ala Thr Leu Asn Pro Ile Ile Tyr Gly Met Arg Thr Lys Gln Leu
290 295 300

Leu Glu Gly Ile Trp Ser Tyr Leu Met His Phe Leu Phe Asp His Ser
305 310 315 320

Asn Leu Gly Ser

<210> 471
<211> 975
<212> DNA
<213> Homo Sapiens

<220>
<221> CDS
<222> (1)..(972)
<223>

<400> 471
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Met Gln Lys Pro Gln Leu Leu Val Pro Ile Ile Ala Thr Ser Asn Gly
1 5 10 15

aat ctg gtc cac gca gca tac ttc ctt ttg gtg ggt atc cct ggc ctg 96
Asn Leu Val His Ala Ala Tyr Phe Leu Leu Val Gly Ile Pro Gly Leu
20 25 30

ggg cct acc ata cac ttt tgg ctg gct ttc cca ctg tgt ttt atg tat 144

Gly	Pro	Thr	Ile	His	Phe	Trp	Leu	Ala	Phe	Pro	Leu	Cys	Phe	Met	Tyr	
	35						40					45				
gcc	ttg	gcc	acc	ctg	ggt	aac	ctg	acc	att	gtc	ctc	atc	att	cgt	gtg	192
Ala	Leu	Ala	Thr	Leu	Gly	Asn	Leu	Thr	Ile	Val	Leu	Ile	Ile	Arg	Val	
	50					55					60					
gag	agg	cga	ctg	cat	gag	ccc	atg	tac	ctc	ttc	ctg	gcc	atg	ctt	tcc	240
Glu	Arg	Arg	Leu	His	Glu	Pro	Met	Tyr	Leu	Phe	Leu	Ala	Met	Leu	Ser	
65					70					75					80	
act	att	gac	cta	gtc	ctc	tcc	tct	atc	acc	atg	ccc	aag	atg	gcc	agt	288
Thr	Ile	Asp	Leu	Val	Leu	Ser	Ser	Ile	Thr	Met	Pro	Lys	Met	Ala	Ser	
				85					90					95		
ctt	ttc	ctg	atg	ggc	atc	cag	gag	atc	gag	ttc	aac	att	tgc	ctg	gcc	336
Leu	Phe	Leu	Met	Gly	Ile	Gln	Glu	Ile	Glu	Phe	Asn	Ile	Cys	Leu	Ala	
			100					105					110			
cag	atg	ttc	ctt	atc	cat	gct	ctg	tca	gcc	gtg	gag	tca	gct	gtc	ctg	384
Gln	Met	Phe	Leu	Ile	His	Ala	Leu	Ser	Ala	Val	Glu	Ser	Ala	Val	Leu	
		115					120					125				
ctg	gcc	atg	gct	ttt	gac	cgc	ttt	gtg	gcc	att	tgc	cac	cca	ttg	cgc	432
Leu	Ala	Met	Ala	Phe	Asp	Arg	Phe	Val	Ala	Ile	Cys	His	Pro	Leu	Arg	
	130					135					140					
cat	gct	tct	gtg	ctg	aca	ggg	tgt	act	gtg	gcc	aag	att	gga	cta	tct	480
His	Ala	Ser	Val	Leu	Thr	Gly	Cys	Thr	Val	Ala	Lys	Ile	Gly	Leu	Ser	
145					150					155					160	
gcc	ctg	acc	agg	ggg	ttt	gta	ttc	ttc	ttc	cca	ctg	ccc	ttc	atc	ctc	528
Ala	Leu	Thr	Arg	Gly	Phe	Val	Phe	Phe	Phe	Pro	Leu	Pro	Phe	Ile	Leu	
				165					170					175		
aag	tgg	ttg	tcc	tac	tgc	caa	aca	cat	act	gtc	aca	cac	tcc	ttc	tgt	576
Lys	Trp	Leu	Ser	Tyr	Cys	Gln	Thr	His	Thr	Val	Thr	His	Ser	Phe	Cys	
			180					185					190			
ctg	cac	caa	gat	att	atg	aag	ctg	tcc	tgt	act	gac	acc	agg	gtc	aat	624
Leu	His	Gln	Asp	Ile	Met	Lys	Leu	Ser	Cys	Thr	Asp	Thr	Arg	Val	Asn	
		195					200					205				
gtg	ggt	tat	gga	ctc	ttc	atc	atc	ctc	tca	gtc	atg	ggg	gtg	gac	tct	672
Val	Val	Tyr	Gly	Leu	Phe	Ile	Ile	Leu	Ser	Val	Met	Gly	Val	Asp	Ser	
	210					215					220					
ctc	ttc	att	ggc	ttc	tca	tat	atc	ctc	atc	ctg	tgg	gct	ggt	ttg	gag	720
Leu	Phe	Ile	Gly	Phe	Ser	Tyr	Ile	Leu	Ile	Leu	Trp	Ala	Val	Leu	Glu	
225					230					235					240	
ctg	tcc	tct	cgg	agg	gca	gca	ctc	aag	gct	ttc	aac	acc	tgc	atc	tcc	768
Leu	Ser	Ser	Arg	Arg	Ala	Ala	Leu	Lys	Ala	Phe	Asn	Thr	Cys	Ile	Ser	
				245					250					255		
cac	ctc	tgt	gct	ggt	ctg	gtc	ttc	tat	gta	ccc	ctc	att	ggg	ctc	tcg	816
His	Leu	Cys	Ala	Val	Leu	Val	Phe	Tyr	Val	Pro	Leu	Ile	Gly	Leu	Ser	
			260					265					270			
gtg	gtg	cat	agg	ctg	ggt	ggt	ccc	acc	tcc	ctc	ctc	cat	gtg	ggt	atg	864
Val	Val	His	Arg	Leu	Gly	Gly	Pro	Thr	Ser	Leu	Leu	His	Val	Val	Met	

275	280	285	
gct aat acc tac ttg ctg cta cca cct gta gtc aac ccc ctt gtc tat			912
Ala Asn Thr Tyr Leu Leu Leu Pro Pro Val Val Asn Pro Leu Val Tyr			
290	295	300	
gga gcc aag acc aaa gag atc tgt tca agg gtc ctc tgt atg ttc tca			960
Gly Ala Lys Thr Lys Glu Ile Cys Ser Arg Val Leu Cys Met Phe Ser			
305	310	315	320
caa ggt ggc aag tga			975
Gln Gly Gly Lys			

<210> 472
 <211> 324
 <212> PRT
 <213> Homo Sapiens

<400> 472

Met Gln Lys Pro Gln Leu Leu Val Pro Ile Ile Ala Thr Ser Asn Gly
1 5 10 15

Asn Leu Val His Ala Ala Tyr Phe Leu Leu Val Gly Ile Pro Gly Leu
20 25 30

Gly Pro Thr Ile His Phe Trp Leu Ala Phe Pro Leu Cys Phe Met Tyr
35 40 45

Ala Leu Ala Thr Leu Gly Asn Leu Thr Ile Val Leu Ile Ile Arg Val
50 55 60

Glu Arg Arg Leu His Glu Pro Met Tyr Leu Phe Leu Ala Met Leu Ser
65 70 75 80

Thr Ile Asp Leu Val Leu Ser Ser Ile Thr Met Pro Lys Met Ala Ser
85 90 95

Leu Phe Leu Met Gly Ile Gln Glu Ile Glu Phe Asn Ile Cys Leu Ala
100 105 110

Gln Met Phe Leu Ile His Ala Leu Ser Ala Val Glu Ser Ala Val Leu
115 120 125

Leu Ala Met Ala Phe Asp Arg Phe Val Ala Ile Cys His Pro Leu Arg
130 135 140

His Ala Ser Val Leu Thr Gly Cys Thr Val Ala Lys Ile Gly Leu Ser
145 150 155 160

Ala Leu Thr Arg Gly Phe Val Phe Phe Phe Pro Leu Pro Phe Ile Leu
165 170 175

Lys Trp Leu Ser Tyr Cys Gln Thr His Thr Val Thr His Ser Phe Cys
180 185 190

Leu His Gln Asp Ile Met Lys Leu Ser Cys Thr Asp Thr Arg Val Asn
195 200 205

Val Val Tyr Gly Leu Phe Ile Ile Leu Ser Val Met Gly Val Asp Ser
210 215 220

Leu Phe Ile Gly Phe Ser Tyr Ile Leu Ile Leu Trp Ala Val Leu Glu
225 230 235 240

Leu Ser Ser Arg Arg Ala Ala Leu Lys Ala Phe Asn Thr Cys Ile Ser
245 250 255

His Leu Cys Ala Val Leu Val Phe Tyr Val Pro Leu Ile Gly Leu Ser
260 265 270

Val Val His Arg Leu Gly Gly Pro Thr Ser Leu Leu His Val Val Met
275 280 285

Ala Asn Thr Tyr Leu Leu Leu Pro Pro Val Val Asn Pro Leu Val Tyr
290 295 300

Gly Ala Lys Thr Lys Glu Ile Cys Ser Arg Val Leu Cys Met Phe Ser
305 310 315 320

Gln Gly Gly Lys

<210> 473
<211> 943
<212> DNA
<213> Homo Sapiens

<220>
<221> CDS
<222> (1)..(942)
<223>

<400> 473
atg ctc act ttt cat aat gtc tgc tca gta ccc agc tcc ttc tgg ctc
Met Leu Thr Phe His Asn Val Cys Ser Val Pro Ser Ser Phe Trp Leu
1 5 10 15

48

act ggc atc cca ggg ctg gag tcc cta cac gtc tgg ctc tcc atc ccc	96
Thr Gly Ile Pro Gly Leu Glu Ser Leu His Val Trp Leu Ser Ile Pro	
20 25 30	
ttt ggc tcc atg tac ctg gtg gct gtg gtg ggg aat gtg acc atc ctg	144
Phe Gly Ser Met Tyr Leu Val Ala Val Val Gly Asn Val Thr Ile Leu	
35 40 45	
gct gtg gta aag ata gaa cgc agc ctg cac cag ccc atg tac ttt ttc	192
Ala Val Val Lys Ile Glu Arg Ser Leu His Gln Pro Met Tyr Phe Phe	
50 55 60	
ttg tgc atg ttg gct gcc att gac ctg gtt ctg tct act tcc act ata	240
Leu Cys Met Leu Ala Ala Ile Asp Leu Val Leu Ser Thr Ser Thr Ile	
65 70 75 80	
ccc aaa ctt ctg gga atc ttc tgg ttc ggt gct tgt gac att ggc ctg	288
Pro Lys Leu Leu Gly Ile Phe Trp Phe Gly Ala Cys Asp Ile Gly Leu	
85 90 95	
gac gcc tgc ttg ggc caa atg ttc ctt atc cac tgc ttt gcc act gtt	336
Asp Ala Cys Leu Gly Gln Met Phe Leu Ile His Cys Phe Ala Thr Val	
100 105 110	
gag tca ggc atc ttc ctt gcc atg gct ttt gat cgc tac gtg gcc atc	384
Glu Ser Gly Ile Phe Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile	
115 120 125	
tgc aac cca cta cgt cat agc atg gtg ctc act tat aca gtg gtg ggt	432
Cys Asn Pro Leu Arg His Ser Met Val Leu Thr Tyr Thr Val Val Gly	
130 135 140	
cgt ttg ggg ctt gtt tct ctc ctc cgg ggt gtt ctc tac att gga cct	480
Arg Leu Gly Leu Val Ser Leu Leu Arg Gly Val Leu Tyr Ile Gly Pro	
145 150 155 160	
ctg cct ctg atg atc cgc ctg cgg ctg ccc ctt tat aaa acc cat gtt	528
Leu Pro Leu Met Ile Arg Leu Arg Leu Pro Leu Tyr Lys Thr His Val	
165 170 175	
atc tcc cac tcc tac tgt gag cac atg gct gta gtt gcc ttg aca tgt	576
Ile Ser His Ser Tyr Cys Glu His Met Ala Val Val Ala Leu Thr Cys	
180 185 190	
ggc gac agc agg gtc aat aat gtc tat ggg ctg agc atc ggc ttt ctg	624
Gly Asp Ser Arg Val Asn Asn Val Tyr Gly Leu Ser Ile Gly Phe Leu	
195 200 205	
gtg ttg atc ctg gac tca gtg gct att gct gca tcc tat gtg atg att	672
Val Leu Ile Leu Asp Ser Val Ala Ile Ala Ala Ser Tyr Val Met Ile	
210 215 220	
ttc agg gcc gtg atg ggg tta gcc act cct gag gct agg ctt aaa acc	720
Phe Arg Ala Val Met Gly Leu Ala Thr Pro Glu Ala Arg Leu Lys Thr	
225 230 235 240	
ctg ggg aca tgc gct tct cac ctc tgt gcc atc ctg atc ttt tat gtt	768
Leu Gly Thr Cys Ala Ser His Leu Cys Ala Ile Leu Ile Phe Tyr Val	
245 250 255	
ccc att gct gtt tct tcc ctg att cac cga ttt ggt cag tgt gtg cct	816

Pro Ile Ala Val Ser Ser Leu Ile His Arg Phe Gly Gln Cys Val Pro
 260 265 270

cct cca gtc cac act ctg ctg gcc aac ttc tat ctc ctc att cct cca 864
 Pro Pro Val His Thr Leu Leu Ala Asn Phe Tyr Leu Leu Ile Pro Pro
 275 280 285

atc ctc aat ccc att gtc tat gct gtt cgc acc aag cag atc cga gag 912
 Ile Leu Asn Pro Ile Val Tyr Ala Val Arg Thr Lys Gln Ile Arg Glu
 290 295 300

agc ctt ctc caa ata cca agg ata gaa atg a 943
 Ser Leu Leu Gln Ile Pro Arg Ile Glu Met
 305 310

<210> 474
 <211> 314
 <212> PRT
 <213> Homo Sapiens

<400> 474

Met Leu Thr Phe His Asn Val Cys Ser Val Pro Ser Ser Phe Trp Leu
 1 5 10 15

Thr Gly Ile Pro Gly Leu Glu Ser Leu His Val Trp Leu Ser Ile Pro
 20 25 30

Phe Gly Ser Met Tyr Leu Val Ala Val Val Gly Asn Val Thr Ile Leu
 35 40 45

Ala Val Val Lys Ile Glu Arg Ser Leu His Gln Pro Met Tyr Phe Phe
 50 55 60

Leu Cys Met Leu Ala Ala Ile Asp Leu Val Leu Ser Thr Ser Thr Ile
 65 70 75 80

Pro Lys Leu Leu Gly Ile Phe Trp Phe Gly Ala Cys Asp Ile Gly Leu
 85 90 95

Asp Ala Cys Leu Gly Gln Met Phe Leu Ile His Cys Phe Ala Thr Val
 100 105 110

Glu Ser Gly Ile Phe Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile
 115 120 125

Cys Asn Pro Leu Arg His Ser Met Val Leu Thr Tyr Thr Val Val Gly
 130 135 140

Arg Leu Gly Leu Val Ser Leu Leu Arg Gly Val Leu Tyr Ile Gly Pro
 145 150 155 160

Leu Pro Leu Met Ile Arg Leu Arg Leu Pro Leu Tyr Lys Thr His Val
 165 170 175

Ile Ser His Ser Tyr Cys Glu His Met Ala Val Val Ala Leu Thr Cys
 180 185 190

Gly Asp Ser Arg Val Asn Asn Val Tyr Gly Leu Ser Ile Gly Phe Leu
 195 200 205

Val Leu Ile Leu Asp Ser Val Ala Ile Ala Ala Ser Tyr Val Met Ile
 210 215 220

Phe Arg Ala Val Met Gly Leu Ala Thr Pro Glu Ala Arg Leu Lys Thr
 225 230 235 240

Leu Gly Thr Cys Ala Ser His Leu Cys Ala Ile Leu Ile Phe Tyr Val
 245 250 255

Pro Ile Ala Val Ser Ser Leu Ile His Arg Phe Gly Gln Cys Val Pro
 260 265 270

Pro Pro Val His Thr Leu Leu Ala Asn Phe Tyr Leu Leu Ile Pro Pro
 275 280 285

Ile Leu Asn Pro Ile Val Tyr Ala Val Arg Thr Lys Gln Ile Arg Glu
 290 295 300

Ser Leu Leu Gln Ile Pro Arg Ile Glu Met
 305 310

<210> 475
 <211> 942
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1) .. (939)
 <223>

<400> 475
 atg agc cct gag aac cag agc agc gtg tcc gag ttc ctc ctt ctg ggc 48
 Met Ser Pro Glu Asn Gln Ser Ser Val Ser Glu Phe Leu Leu Leu Gly
 1 5 10 15

ctc ccc atc cgg cca gag cag cag gct gtg ttc ttc acc ctg ttc ctg 96
 Leu Pro Ile Arg Pro Glu Gln Gln Ala Val Phe Phe Thr Leu Phe Leu
 20 25 30

ggc atg tac ctg acc acg gtg ctg ggg aac ctg ctc atc atg ctg ctc Gly Met Tyr Leu Thr Thr Val Leu Gly Asn Leu Leu Ile Met Leu Leu 35 40 45	144
atc cag ctg gac tct cac ctt cac acc ccc atg tac ttc ttc ctc agc Ile Gln Leu Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Ser 50 55 60	192
cac ttg gct ctc act gac atc tcc ttt tca tct gtc act gtc cct aag His Leu Ala Leu Thr Asp Ile Ser Phe Ser Ser Val Thr Val Pro Lys 65 70 75 80	240
atg ctg atg gac atg cgg act aag tac aaa tcg atc ctc tat gag gaa Met Leu Met Asp Met Arg Thr Lys Tyr Lys Ser Ile Leu Tyr Glu Glu 85 90 95	288
tgc att tct cag atg tat ttt ttt ata ttt ttt act gac ctg gac agc Cys Ile Ser Gln Met Tyr Phe Phe Ile Phe Phe Thr Asp Leu Asp Ser 100 105 110	336
ttc ctt att aca tca atg gca tat gac cga tat gtt gcc ata tgt cac Phe Leu Ile Thr Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His 115 120 125	384
cct ctc cac tac act gtc atc atg agg gaa gag ctc tgt gtc ttc tta Pro Leu His Tyr Thr Val Ile Met Arg Glu Glu Leu Cys Val Phe Leu 130 135 140	432
gtg gct gta tct tgg att ctg tct tgt gcc agc tcc ctc tct cac acc Val Ala Val Ser Trp Ile Leu Ser Cys Ala Ser Ser Leu Ser His Thr 145 150 155 160	480
ctt ctc ctg acc cgg ctg tct ttc tgt gct gcg aac acc atc ccc cat Leu Leu Leu Thr Arg Leu Ser Phe Cys Ala Ala Asn Thr Ile Pro His 165 170 175	528
gtc ttc tgt gac ctt gct gcc ctg ctc aag ctg tcc tgc tca gat atc Val Phe Cys Asp Leu Ala Ala Leu Leu Lys Leu Ser Cys Ser Asp Ile 180 185 190	576
ttc ctc aat gag ctg gtc atg ttc aca gta ggg gtg gtg gtc att acc Phe Leu Asn Glu Leu Val Met Phe Thr Val Gly Val Val Ile Thr 195 200 205	624
ctg cca ttc atg tgt atc ctg gta tca tat ggc tac att ggg gcc acc Leu Pro Phe Met Cys Ile Leu Val Ser Tyr Gly Tyr Ile Gly Ala Thr 210 215 220	672
atc ctg agg gtc cct tca acc aaa ggg atc cac aaa gca ttg tcc aca Ile Leu Arg Val Pro Ser Thr Lys Gly Ile His Lys Ala Leu Ser Thr 225 230 235 240	720
tgt ggc tcc cat ctc tct gtg gtg tct ctc tat tat ggg tca ata ttt Cys Gly Ser His Leu Ser Val Val Ser Leu Tyr Tyr Gly Ser Ile Phe 245 250 255	768
ggc cag tac ctt ttc ccg act gta agc agt tct att gac aag gat gtc Gly Gln Tyr Leu Phe Pro Thr Val Ser Ser Ser Ile Asp Lys Asp Val 260 265 270	816

ttc agt aga gca aca ttt ttc tct tgg tga 942
Phe Ser Arg Ala Thr Phe Phe Ser Trp
305 310

<210>	476
<211>	313
<212>	PRT
<213>	Homo Sapiens

<400> 476

Gly Met Tyr Leu Thr Thr Val Leu Gly Asn Leu Leu Ile Met Leu Leu
35 40 45

Ile Gln Leu Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Ser
50 55 60

His Leu Ala Leu Thr Asp Ile Ser Phe Ser Ser Val Thr Val Pro Lys
65 70 75 80

Met Leu Met Asp Met Arg Thr Lys Tyr Lys Ser Ile Leu Tyr Glu Glu
85 90 95

.Cys Ile Ser Gln Met Tyr Phe Phe Ile Phe Phe Thr Asp Leu Asp Ser
100 105 110

Phe Leu Ile Thr Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His
115 120 125

Pro Leu His Tyr Thr Val Ile Met Arg Glu Glu Leu Cys Val Phe Leu
130 135 140

Val Ala Val Ser Trp Ile Leu Ser Cys Ala Ser Ser Leu Ser His Thr
145 150 155 160

Leu Leu Leu Thr Arg Leu Ser Phe Cys Ala Ala Asn Thr Ile Pro His

	165		170		175
Val Phe Cys Asp	Leu Ala Ala Leu	Leu Lys Leu Ser	Cys Ser Asp Ile		
180		185	190		
Phe Leu Asn Glu	Leu Val Met Phe	Thr Val Gly Val	Val Val Ile Thr		
195	200	205			
Leu Pro Phe Met	Cys Ile Leu Val	Ser Tyr Gly Tyr	Ile Gly Ala Thr		
210	215	220			
Ile Leu Arg Val	Pro Ser Thr Lys	Gly Ile His Lys	Ala Leu Ser Thr		
225	230	235	240		
Cys Gly Ser His	Leu Ser Val Val	Ser Leu Tyr Tyr	Gly Ser Ile Phe		
245		250	255		
Gly Gln Tyr Leu	Phe Pro Thr Val	Ser Ser Ser Ile	Asp Lys Asp Val		
260		265	270		
Ile Val Ala Leu	Met Tyr Thr Val	Val Thr Pro Met	Leu Asn Pro Phe		
275	280	285			
Ile Tyr Ser Leu	Arg Asn Arg Asp	Met Lys Glu Ala	Leu Gly Lys Leu		
290	295	300			
Phe Ser Arg Ala	Thr Phe Phe Ser	Trp			
305	310				

<210> 477
 <211> 996
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1)..(993)
 <223>

<400> 477	
atg tgc tgg act atg ccc tct cca ttt aca ggt agc tct act aga aat	48
Met Cys Trp Thr Met Pro Ser Pro Phe Thr Gly Ser Ser Thr Arg Asn	
1 5 10 15	
atg gag agc gga aac caa tca aca gtg act gaa ttt atc ttc act gga	96
Met Glu Ser Gly Asn Gln Ser Thr Val Thr Glu Phe Ile Phe Thr Gly	
20 25 30	
ttc cct cag ctt cag gat ggt agt ctc ctg tac ttc ttt cct tta ctt	144
Phe Pro Gln Leu Gln Asp Gly Ser Leu Leu Tyr Phe Phe Pro Leu Leu	

35	40	45	
ttc atc tat act ttt att atc att gat aac tta tta atc ttc tct gct Phe Ile Tyr Thr Phe Ile Ile Ile Asp Asn Leu Leu Ile Phe Ser Ala 50 55 60			192
gta agg ctg gac acc cat ctc cac aac ccc atg tat aat ttt atc agt Val Arg Leu Asp Thr His Leu His Asn Pro Met Tyr Asn Phe Ile Ser 65 70 75 80			240
ata ttt tcc ttt ctg gag atc tgg tac acc aca gcc acc att ccc aag Ile Phe Ser Phe Leu Glu Ile Trp Tyr Thr Thr Ala Thr Ile Pro Lys 85 90 95			288
atg ctc tcc aac ctc atc agt gaa aag aag gcc atc tca atg act ggc Met Leu Ser Asn Leu Ile Ser Glu Lys Lys Ala Ile Ser Met Thr Gly 100 105 110			336
tgc atc ttg cag atg tat ttc ttc cac tca ctt gaa aac tca gag ggg Cys Ile Leu Gln Met Tyr Phe Phe His Ser Leu Glu Asn Ser Glu Gly 115 120 125			384
atc ttg ctg acc acc atg gcc att gac aga tac gtt gcc atc tgc aac Ile Leu Leu Thr Thr Met Ala Ile Asp Arg Tyr Val Ala Ile Cys Asn 130 135 140			432
cct ctt cgc tat caa atg atc atg acc ccc cgg ctc tgt gct caa ctc Pro Leu Arg Tyr Gln Met Ile Met Thr Pro Arg Leu Cys Ala Gln Leu 145 150 155 160			480
tct gca ggt tcc tgc ctc ttc ggt ttc ctt atc ctg ctt ccc gag att Ser Ala Gly Ser Cys Leu Phe Gly Phe Leu Ile Leu Leu Pro Glu Ile 165 170 175			528
gtg atg att tcc aca ctg cct ttc tgt ggg ccc aac caa atc cat cag Val Met Ile Ser Thr Leu Pro Phe Cys Gly Pro Asn Gln Ile His Gln 180 185 190			576
atc ttc tgt gac ttg gtc cct gtg cta agc ctg gcc tgt aca gac acg Ile Phe Cys Asp Leu Val Pro Val Leu Ser Leu Ala Cys Thr Asp Thr 195 200 205			624
tcc atg att ctg att gag gat gtg att cat gct gtg acc atc atc att Ser Met Ile Leu Ile Glu Asp Val Ile His Ala Val Thr Ile Ile Ile 210 215 220			672
acc ttc cta atc att gcc ctg tcc tat gta aga att gtc act gtg ata Thr Phe Leu Ile Ile Ala Leu Ser Tyr Val Arg Ile Val Thr Val Ile 225 230 235 240			720
ttg agg att ccc tct tct gaa ggg agg caa aag gct ttt tct acc tgt Leu Arg Ile Pro Ser Ser Glu Gly Arg Gln Lys Ala Phe Ser Thr Cys 245 250 255			768
gca ggc cac ctc atg gtc ttc ccg ata ttc ttt ggc agt gta tca ctc Ala Gly His Leu Met Val Phe Pro Ile Phe Phe Gly Ser Val Ser Leu 260 265 270			816
atg tac ttg cgt ttc agc gac act tat cca cca gtt ttg gac aca gcc Met Tyr Leu Arg Phe Ser Asp Thr Tyr Pro Pro Val Leu Asp Thr Ala 275 280 285			864

att gca ctg atg ttt act gta ctt gct cca ttc ttc aat ccc atc att 912
 Ile Ala Leu Met Phe Thr Val Leu Ala Pro Phe Phe Asn Pro Ile Ile
 290 295 300

tat agc ctg aga aac aag gac atg aac aat gcg att aaa aaa ctg ttc 960
 Tyr Ser Leu Arg Asn Lys Asp Met Asn Asn Ala Ile Lys Lys Leu Phe
 305 310 315 320

tgt ctt caa aaa gtg ttg aac aag cct gga ggt taa 996
 Cys Leu Gln Lys Val Leu Asn Lys Pro Gly Gly
 325 330

<210> 478

<211> 331

<212> PRT

<213> Homo Sapiens

<400> 478

Met Cys Trp Thr Met Pro Ser Pro Phe Thr Gly Ser Ser Thr Arg Asn
 1 5 10 15

Met Glu Ser Gly Asn Gln Ser Thr Val Thr Glu Phe Ile Phe Thr Gly
 20 25 30

Phe Pro Gln Leu Gln Asp Gly Ser Leu Leu Tyr Phe Phe Pro Leu Leu
 35 40 45

Phe Ile Tyr Thr Phe Ile Ile Ile Asp Asn Leu Leu Ile Phe Ser Ala
 50 55 60

Val Arg Leu Asp Thr His Leu His Asn Pro Met Tyr Asn Phe Ile Ser
 65 70 75 80

Ile Phe Ser Phe Leu Glu Ile Trp Tyr Thr Thr Ala Thr Ile Pro Lys
 85 90 95

Met Leu Ser Asn Leu Ile Ser Glu Lys Lys Ala Ile Ser Met Thr Gly
 100 105 110

Cys Ile Leu Gln Met Tyr Phe Phe His Ser Leu Glu Asn Ser Glu Gly
 115 120 125

Ile Leu Leu Thr Thr Met Ala Ile Asp Arg Tyr Val Ala Ile Cys Asn
 130 135 140

Pro Leu Arg Tyr Gln Met Ile Met Thr Pro Arg Leu Cys Ala Gln Leu
 145 150 155 160

Ser Ala Gly Ser Cys Leu Phe Gly Phe Leu Ile Leu Leu Pro Glu Ile
 165 170 175

Val Met Ile Ser Thr Leu Pro Phe Cys Gly Pro Asn Gln Ile His Gln
 180 185 190

Ile Phe Cys Asp Leu Val Pro Val Leu Ser Leu Ala Cys Thr Asp Thr
 195 200 205

Ser Met Ile Leu Ile Glu Asp Val Ile His Ala Val Thr Ile Ile Ile
 210 215 220

Thr Phe Leu Ile Ile Ala Leu Ser Tyr Val Arg Ile Val Thr Val Ile
 225 230 235 240

Leu Arg Ile Pro Ser Ser Glu Gly Arg Gln Lys Ala Phe Ser Thr Cys
 245 250 255

Ala Gly His Leu Met Val Phe Pro Ile Phe Phe Gly Ser Val Ser Leu
 260 265 270

Met Tyr Leu Arg Phe Ser Asp Thr Tyr Pro Pro Val Leu Asp Thr Ala
 275 280 285

Ile Ala Leu Met Phe Thr Val Leu Ala Pro Phe Phe Asn Pro Ile Ile
 290 295 300

Tyr Ser Leu Arg Asn Lys Asp Met Asn Asn Ala Ile Lys Lys Leu Phe
 305 310 315 320

Cys Leu Gln Lys Val Leu Asn Lys Pro Gly Gly
 325 330

<210> 479
 <211> 945
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1)..(942)
 <223>

<400> 479
 atg gag aca aga aat tac tct gcc atg act gaa ttc ttt ctg gtg ggg 48
 Met Glu Thr Arg Asn Tyr Ser Ala Met Thr Glu Phe Phe Leu Val Gly
 1 5 10 15
 ctt tcc caa tat cca gag ctc cag ctt ttt ctg ttc ctg ctc tgc ctc 96

Leu	Ser	Gln	Tyr	Pro	Glu	Leu	Gln	Leu	Phe	Leu	Phe	Leu	Leu	Cys	Leu	
		20					25					30				
atc	atg	tac	atg	ata	atc	ctc	ctg	gga	aat	agc	ctc	ctc	att	atc	atc	144
Ile	Met	Tyr	Met	Ile	Ile	Leu	Leu	Gly	Asn	Ser	Leu	Leu	Ile	Ile	Ile	
		35					40					45				
acc	atc	ttg	gat	tct	cgc	ctc	cat	act	ccc	atg	tat	ttc	ttt	ctt	gga	192
Thr	Ile	Leu	Asp	Ser	Arg	Leu	His	Thr	Pro	Met	Tyr	Phe	Phe	Leu	Gly	
	50					55					60					
aac	ctc	tca	ttc	ttg	gac	atc	tgt	tac	aca	tcc	tca	tcc	att	cct	cca	240
Asn	Leu	Ser	Phe	Leu	Asp	Ile	Cys	Tyr	Thr	Ser	Ser	Ser	Ile	Pro	Pro	
65					70				75					80		
atg	ctt	att	ata	ttt	atg	tct	gag	aga	aaa	tcc	atc	tcc	ttc	att	ggc	288
Met	Leu	Ile	Ile	Phe	Met	Ser	Glu	Arg	Lys	Ser	Ile	Ser	Phe	Ile	Gly	
				85					90					95		
tgt	gct	ctg	cag	atg	gtt	gtg	tcc	ctt	ggc	ttg	ggc	tcc	act	gag	tgt	336
Cys	Ala	Leu	Gln	Met	Val	Val	Ser	Leu	Gly	Leu	Gly	Ser	Thr	Glu	Cys	
			100					105					110			
gtc	ctc	ctg	gct	gtg	atg	gcc	tat	gac	cac	tat	gtg	gcc	atc	tgc	aac	384
Val	Leu	Leu	Ala	Val	Met	Ala	Tyr	Asp	His	Tyr	Val	Ala	Ile	Cys	Asn	
			115				120					125				
cca	ctg	agg	tac	tcc	atc	atc	atg	aac	gga	gtg	ctg	tat	gtg	caa	atg	432
Pro	Leu	Arg	Tyr	Ser	Ile	Ile	Met	Asn	Gly	Val	Leu	Tyr	Val	Gln	Met	
	130					135					140					
gct	gca	tggt	tcc	tggt	atc	ata	ggc	tgt	ctg	acc	tcc	cta	ttg	caa	aca	480
Ala	Ala	Trp	Ser	Trp	Ile	Ile	Gly	Cys	Leu	Thr	Ser	Leu	Leu	Gln	Thr	
145					150				155					160		
gtt	ctg	aca	atg	atg	ttg	cct	ttc	tgt	ggg	aat	aat	gtc	att	gat	cat	528
Val	Leu	Thr	Met	Met	Leu	Pro	Phe	Cys	Gly	Asn	Asn	Val	Ile	Asp	His	
				165					170					175		
att	acc	tgt	gaa	att	ttg	gcc	ctt	cta	aaa	ctt	gtt	tgt	tca	gat	atc	576
Ile	Thr	Cys	Glu	Ile	Leu	Ala	Leu	Leu	Lys	Leu	Val	Cys	Ser	Asp	Ile	
			180					185					190			
acc	atc	aat	gtg	ctt	atc	atg	aca	gtg	aca	aat	att	gtt	tca	ctg	gtg	624
Thr	Ile	Asn	Val	Leu	Ile	Met	Thr	Val	Thr	Asn	Ile	Val	Ser	Leu	Val	
		195					200					205				
att	ctt	cta	ctg	tta	att	ttc	atc	tcc	tat	gtg	ttt	att	ctc	tct	tcc	672
Ile	Leu	Leu	Leu	Leu	Ile	Phe	Ile	Ser	Tyr	Val	Phe	Ile	Leu	Ser	Ser	
		210				215					220					
atc	ctg	aga	att	aat	tgt	gct	gag	gga	aga	aag	aaa	gcc	ttc	tct	acc	720
Ile	Leu	Arg	Ile	Asn	Cys	Ala	Glu	Gly	Arg	Lys	Lys	Ala	Phe	Ser	Thr	
225					230					235					240	
tgt	tca	gcg	cac	tcg	att	gtg	gtc	atc	tta	ttc	tac	ggg	tca	gcc	ctt	768
Cys	Ser	Ala	His	Ser	Ile	Val	Val	Ile	Leu	Phe	Tyr	Gly	Ser	Ala	Leu	
				245				250					255			
ttt	atg	tac	atg	aaa	ccc	aag	tca	aag	aac	act	aat	aca	tct	gat	gag	816
Phe	Met	Tyr	Met	Lys	Pro	Lys	Ser	Lys	Asn	Thr	Asn	Thr	Ser	Asp	Glu	

260 265 270
 att att ggg ctg tct tat gga gtg gta agc cca atg tta aat ccc atc 864
 Ile Ile Gly Leu Ser Tyr Gly Val Val Ser Pro Met Leu Asn Pro Ile
 275 280 285

 atc tat agc ctc agg aat aaa gag gtc aaa gag gct gta aag aaa gtc 912
 Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Glu Ala Val Lys Lys Val
 290 295 300

 ctg agc aga cat ctg cat tta ttg aaa atg tga 945
 Leu Ser Arg His Leu His Leu Leu Lys Met
 305 310

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 <211> 314
 <212> PRT
 <213> Homo Sapiens

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 Met Glu Thr Arg Asn Tyr Ser Ala Met Thr Glu Phe Phe Leu Val Gly
 1 5 10 15

 Leu Ser Gln Tyr Pro Glu Leu Gln Leu Phe Leu Phe Leu Leu Cys Leu
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 Ile Met Tyr Met Ile Ile Leu Leu Gly Asn Ser Leu Leu Ile Ile Ile
 35 40 45

 Thr Ile Leu Asp Ser Arg Leu His Thr Pro Met Tyr Phe Phe Leu Gly
 50 55 60

 Asn Leu Ser Phe Leu Asp Ile Cys Tyr Thr Ser Ser Ser Ile Pro Pro
 65 70 75 80

 Met Leu Ile Ile Phe Met Ser Glu Arg Lys Ser Ile Ser Phe Ile Gly
 85 90 95

 Cys Ala Leu Gln Met Val Val Ser Leu Gly Leu Gly Ser Thr Glu Cys
 100 105 110

 Val Leu Leu Ala Val Met Ala Tyr Asp His Tyr Val Ala Ile Cys Asn
 115 120 125

 Pro Leu Arg Tyr Ser Ile Ile Met Asn Gly Val Leu Tyr Val Gln Met
 130 135 140

 Ala Ala Trp Ser Trp Ile Ile Gly Cys Leu Thr Ser Leu Leu Gln Thr
 145 150 155 160

Val Leu Thr Met Met Leu Pro Phe Cys Gly Asn Asn Val Ile Asp His
165 170 175

Ile Thr Cys Glu Ile Leu Ala Leu Leu Lys Leu Val Cys Ser Asp Ile
180 185 190

Thr Ile Asn Val Leu Ile Met Thr Val Thr Asn Ile Val Ser Leu Val
195 200 205

Ile Leu Leu Leu Leu Ile Phe Ile Ser Tyr Val Phe Ile Leu Ser Ser
210 215 220

Ile Leu Arg Ile Asn Cys Ala Glu Gly Arg Lys Lys Ala Phe Ser Thr
225 230 235 240

Cys Ser Ala His Ser Ile Val Val Ile Leu Phe Tyr Gly Ser Ala Leu
245 250 255

Phe Met Tyr Met Lys Pro Lys Ser Lys Asn Thr Asn Thr Ser Asp Glu
260 265 270

Ile Ile Gly Leu Ser Tyr Gly Val Val Ser Pro Met Leu Asn Pro Ile
275 280 285

Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Glu Ala Val Lys Lys Val
290 295 300

Leu Ser Arg His Leu His Leu Leu Lys Met
305 310

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<211> 972
<212> DNA
<213> Homo Sapiens

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<222> (1)..(969)
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gcc ccc acc ttc ttg ctg gtg ggc atg cca ggc cta tca ggt gca ccc 96
Ala Pro Thr Phe Leu Leu Val Gly Met Pro Gly Leu Ser Gly Ala Pro
20 25 30

tcc tgg tgg aca ttg ccc ctc att gct gtc tac ctt ctc tct gca ctg	144
Ser Trp Trp Thr Leu Pro Leu Ile Ala Val Tyr Leu Leu Ser Ala Leu	
35 40 45	
gga aat ggc acc atc ctc tgg atc att gcc ctg cag ccc gcc ctg cac	192
Gly Asn Gly Thr Ile Leu Trp Ile Ile Ala Leu Gln Pro Ala Leu His	
50 55 60	
cgc cca atg cac ttc ttc ctc ttc ttg ctt agt gtg tct gat att gga	240
Arg Pro Met His Phe Phe Leu Phe Leu Leu Ser Val Ser Asp Ile Gly	
65 70 75 80	
ttg gtc act gcc ctg atg ccc aca ctg ctg ggc atc gcc ctt gct ggt	288
Leu Val Thr Ala Leu Met Pro Thr Leu Leu Gly Ile Ala Leu Ala Gly	
85 90 95	
gct cac act gtc cct gcc tca gcc tgc ctt cta cag atg gtt ttt atc	336
Ala His Thr Val Pro Ala Ser Ala Cys Leu Leu Gln Met Val Phe Ile	
100 105 110	
cat gtc ttt tct gtc atg gag tcc tct gtc ttg ctc gcc atg tcc att	384
His Val Phe Ser Val Met Glu Ser Ser Val Leu Leu Ala Met Ser Ile	
115 120 125	
gat cgg gca ctg gcc atc tgc cga cct ctc cac tac cca gcg ctc ctc	432
Asp Arg Ala Leu Ala Ile Cys Arg Pro Leu His Tyr Pro Ala Leu Leu	
130 135 140	
acc aat ggt gta att agc aaa atc agc ctg gcc att tct ttt cga tgc	480
Thr Asn Gly Val Ile Ser Lys Ile Ser Leu Ala Ile Ser Phe Arg Cys	
145 150 155 160	
ctg ggt ctc cat ctg ccc ctg cca ttc ctg ctg gcc tac atg ccc tac	528
Leu Gly Leu His Leu Pro Leu Pro Phe Leu Leu Ala Tyr Met Pro Tyr	
165 170 175	
tgc ctc cca cag gtc cta acc cat tct tat tgc ttg cat cca gat gtg	576
Cys Leu Pro Gln Val Leu Thr His Ser Tyr Cys Leu His Pro Asp Val	
180 185 190	
gct cgt ttg gcc tgc cca gaa gct tgg ggt gca gcc tac agc cta ttt	624
Ala Arg Leu Ala Cys Pro Glu Ala Trp Gly Ala Ala Tyr Ser Leu Phe	
195 200 205	
gtg gtt ctt tca gcc atg ggt ttg gac ccc ctg ctt att ttc ttc tcc	672
Val Val Leu Ser Ala Met Gly Leu Asp Pro Leu Leu Ile Phe Phe Ser	
210 215 220	
tat ggc ctg att ggc aag gtg ttg caa ggt gtg gag tcc aga gag gat	720
Tyr Gly Leu Ile Gly Lys Val Leu Gln Gly Val Glu Ser Arg Glu Asp	
225 230 235 240	
cgc tgg aag gct ggt caa acc tgt gct gcc cac ctc tct gca gtg ctc	768
Arg Trp Lys Ala Gly Gln Thr Cys Ala Ala His Leu Ser Ala Val Leu	
245 250 255	
ctc ttc tat atc cct atg atc ctc ctg gca ctg att aac cat cct gag	816
Leu Phe Tyr Ile Pro Met Ile Leu Leu Ala Leu Ile Asn His Pro Glu	
260 265 270	
ctg cca atc act cag cat acc cat act ctt cta tcc tat gtc cat ttc	864

Leu Pro Ile Thr Gln His Thr His Thr Leu Leu Ser Tyr Val His Phe
 275 280 285
 ctt ctt cct cca ttg ata aac cct att ctc tat agt gtc aag atg aag 912
 Leu Leu Pro Pro Leu Ile Asn Pro Ile Leu Tyr Ser Val Lys Met Lys
 290 295 300
 gag att aga aag aga ata ctc aac agg ttg cag ccc agg aag gtg ggt 960
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 305 310 315 320
 ggt gct cag tga 972
 Gly Ala Gln

<210> 482
 <211> 323
 <212> PRT
 <213> Homo Sapiens

<400> 482

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Ala Pro Thr Phe Leu Leu Val Gly Met Pro Gly Leu Ser Gly Ala Pro
 20 25 30

Ser Trp Trp Thr Leu Pro Leu Ile Ala Val Tyr Leu Leu Ser Ala Leu
 35 40 45

Gly Asn Gly Thr Ile Leu Trp Ile Ile Ala Leu Gln Pro Ala Leu His
 50 55 60

Arg Pro Met His Phe Phe Leu Phe Leu Leu Ser Val Ser Asp Ile Gly
 65 70 75 80

Leu Val Thr Ala Leu Met Pro Thr Leu Leu Gly Ile Ala Leu Ala Gly
 85 90 95

Ala His Thr Val Pro Ala Ser Ala Cys Leu Leu Gln Met Val Phe Ile
 100 105 110

His Val Phe Ser Val Met Glu Ser Ser Val Leu Leu Ala Met Ser Ile
 115 120 125

Asp Arg Ala Leu Ala Ile Cys Arg Pro Leu His Tyr Pro Ala Leu Leu
 130 135 140

Thr Asn Gly Val Ile Ser Lys Ile Ser Leu Ala Ile Ser Phe Arg Cys
 145 150 155 160

Leu Gly Leu His Leu Pro Leu Pro Phe Leu Leu Ala Tyr Met Pro Tyr
 165 170 175
 Cys Leu Pro Gln Val Leu Thr His Ser Tyr Cys Leu His Pro Asp Val
 180 185 190
 Ala Arg Leu Ala Cys Pro Glu Ala Trp Gly Ala Ala Tyr Ser Leu Phe
 195 200 205
 Val Val Leu Ser Ala Met Gly Leu Asp Pro Leu Leu Ile Phe Phe Ser
 210 215 220
 Tyr Gly Leu Ile Gly Lys Val Leu Gln Gly Val Glu Ser Arg Glu Asp
 225 230 235 240
 Arg Trp Lys Ala Gly Gln Thr Cys Ala Ala His Leu Ser Ala Val Leu
 245 250 255
 Leu Phe Tyr Ile Pro Met Ile Leu Leu Ala Leu Ile Asn His Pro Glu
 260 265 270
 Leu Pro Ile Thr Gln His Thr His Thr Leu Leu Ser Tyr Val His Phe
 275 280 285
 Leu Leu Pro Pro Leu Ile Asn Pro Ile Leu Tyr Ser Val Lys Met Lys
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 Glu Ile Arg Lys Arg Ile Leu Asn Arg Leu Gln Pro Arg Lys Val Gly
 305 310 315 320
 Gly Ala Gln

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 <212> DNA
 <213> Homo Sapiens

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ctg ctg ggc ctc aca gag act gca gct cta cag ccc atc ctc ttt gtc				96
Leu Leu Gly Leu Thr Glu Thr Ala Ala Leu Gln Pro Ile Leu Phe Val	20	25	30	
atc ttc ctt ctt gct tac gtc act acc att gga ggc acc ctc agc atc				144
Ile Phe Leu Leu Ala Tyr Val Thr Ile Gly Gly Thr Leu Ser Ile	35	40	45	
ctg gcg gcc atc ctt atg gaa acc aaa ctc cac agc ccc atg tac ttc				192
Leu Ala Ala Ile Leu Met Glu Thr Lys Leu His Ser Pro Met Tyr Phe	50	55	60	
ttc ctg ggg aac ttg tcc ctg cca gat gtg ggg tgt gtc agt gtc act				240
Phe Leu Gly Asn Leu Ser Leu Pro Asp Val Gly Cys Val Ser Val Thr	65	70	75	80
gtc cct gcc atg ctg agc cat ttc ata tcc aac gac aga agc att ccc				288
Val Pro Ala Met Leu Ser His Phe Ile Ser Asn Asp Arg Ser Ile Pro	85	90	95	
tat aag gcc tgc ctc tcc gag ctc ttc ttc ttc cac ctc ctg gct ggg				336
Tyr Lys Ala Cys Leu Ser Glu Leu Phe Phe Phe His Leu Leu Ala Gly	100	105	110	
gca gac tgc ttc ttg ctg acc atc atg gcc tat gac cgc tat ctg gcc				384
Ala Asp Cys Phe Leu Leu Thr Ile Met Ala Tyr Asp Arg Tyr Leu Ala	115	120	125	
atc tgc cag tcc ctc acc tac agc agc cgc atg agc tgg gga atc cag				432
Ile Cys Gln Ser Leu Thr Tyr Ser Ser Arg Met Ser Trp Gly Ile Gln	130	135	140	
caa gcc ctg gtg ggc atg tca tgt gtc ttt tcc ttc acc aat gca ctg				480
Gln Ala Leu Val Gly Met Ser Cys Val Phe Ser Phe Thr Asn Ala Leu	145	150	155	160
acc caa act gtt gcc ctg tct cct ctt aac ttc tgt ggc ccc aat gtg				528
Thr Gln Thr Val Ala Leu Ser Pro Leu Asn Phe Cys Gly Pro Asn Val	165	170	175	
atc aat cac ttc tac tgt gac ctc cca cag ccc ttc cag ctc tcc tgc				576
Ile Asn His Phe Tyr Cys Asp Leu Pro Gln Pro Phe Gln Leu Ser Cys	180	185	190	
gcc agt gtt cat ctc aat ggg cag ttg ctg ttt gta gca gca gct ttc				624
Ala Ser Val His Leu Asn Gly Gln Leu Leu Phe Val Ala Ala Ala Phe	195	200	205	
atg ggt gtg gcc ccc ttg gtc ctc atc act gtg tcc tat gcc cat gtg				672
Met Gly Val Ala Pro Leu Val Leu Ile Thr Val Ser Tyr Ala His Val	210	215	220	
gca gct gca gtc ctg cga atc cgc tct gca gag ggc aaa aag aaa gcc				720
Ala Ala Ala Val Leu Arg Ile Arg Ser Ala Glu Gly Lys Lys Lys Ala	225	230	235	240
ttc tcc acg tgt agt tcc cac ctc act gtg gtg ggc atc ttc tat ggg				768
Phe Ser Thr Cys Ser Ser His Leu Thr Val Val Gly Ile Phe Tyr Gly	245	250	255	

acg ggc gtc ttc agc tac aca agg ctg ggt tca gtg gag tct tcg gac 816
 Thr Gly Val Phe Ser Tyr Thr Arg Leu Gly Ser Val Glu Ser Ser Asp
 260 265 270

aag gac aag ggc att ggc atc ctc aac act gtc atc agc ccc atg ctg 864
 Lys Asp Lys Gly Ile Gly Ile Leu Asn Thr Val Ile Ser Pro Met Leu
 275 280 285

aac cca ctc atc tac tgg aca tct ctg ctg gac gtc ggg tgc atc agt 912
 Asn Pro Leu Ile Tyr Trp Thr Ser Leu Leu Asp Val Gly Cys Ile Ser
 290 295 300

cac tgt tcc tcc gat gct ggc gtg tct cca ggc cca cca gtg cag agt 960
 His Cys Ser Ser Asp Ala Gly Val Ser Pro Gly Pro Pro Val Gln Ser
 305 310 315 320

tcc cta tgc tgc ctg cag ttc aca gct ctt ctt tcc cca cct cct ggc 1008
 Ser Leu Cys Cys Leu Gln Phe Thr Ala Leu Leu Ser Pro Pro Pro Gly
 325 330 335

tgg ggt gga ctg tca cct ctt aat agc cat ggc cta tga 1047
 Trp Gly Gly Leu Ser Pro Leu Asn Ser His Gly Leu
 340 345

<210> 484
 <211> 348
 <212> PRT
 <213> Homo Sapiens

<400> 484
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Leu Leu Gly Leu Thr Glu Thr Ala Ala Leu Gln Pro Ile Leu Phe Val
 20 25 30

Ile Phe Leu Leu Ala Tyr Val Thr Thr Ile Gly Gly Thr Leu Ser Ile
 35 40 45

Leu Ala Ala Ile Leu Met Glu Thr Lys Leu His Ser Pro Met Tyr Phe
 50 55 60

Phe Leu Gly Asn Leu Ser Leu Pro Asp Val Gly Cys Val Ser Val Thr
 65 70 75 80

Val Pro Ala Met Leu Ser His Phe Ile Ser Asn Asp Arg Ser Ile Pro
 85 90 95

Tyr Lys Ala Cys Leu Ser Glu Leu Phe Phe Phe His Leu Leu Ala Gly
 100 105 110

Ala Asp Cys Phe Leu Leu Thr Ile Met Ala Tyr Asp Arg Tyr Leu Ala

115	120	125
Ile Cys Gln Ser Leu Thr Tyr Ser Ser Arg Met Ser Trp Gly Ile Gln		
130	135	140
Gln Ala Leu Val Gly Met Ser Cys Val Phe Ser Phe Thr Asn Ala Leu		
145	150	155
Thr Gln Thr Val Ala Leu Ser Pro Leu Asn Phe Cys Gly Pro Asn Val		
165	170	175
Ile Asn His Phe Tyr Cys Asp Leu Pro Gln Pro Phe Gln Leu Ser Cys		
180	185	190
Ala Ser Val His Leu Asn Gly Gln Leu Leu Phe Val Ala Ala Ala Phe		
195	200	205
Met Gly Val Ala Pro Leu Val Leu Ile Thr Val Ser Tyr Ala His Val		
210	215	220
Ala Ala Ala Val Leu Arg Ile Arg Ser Ala Glu Gly Lys Lys Lys Ala		
225	230	235
Phe Ser Thr Cys Ser Ser His Leu Thr Val Val Gly Ile Phe Tyr Gly		
245	250	255
Thr Gly Val Phe Ser Tyr Thr Arg Leu Gly Ser Val Glu Ser Ser Asp		
260	265	270
Lys Asp Lys Gly Ile Gly Ile Leu Asn Thr Val Ile Ser Pro Met Leu		
275	280	285
Asn Pro Leu Ile Tyr Trp Thr Ser Leu Leu Asp Val Gly Cys Ile Ser		
290	295	300
His Cys Ser Ser Asp Ala Gly Val Ser Pro Gly Pro Pro Val Gln Ser		
305	310	315
Ser Leu Cys Cys Leu Gln Phe Thr Ala Leu Leu Ser Pro Pro Pro Gly		
325	330	335
Trp Gly Gly Leu Ser Pro Leu Asn Ser His Gly Leu		
340	345	

<210> 485
 <211> 1053

<212> DNA
 <213> Homo Sapiens

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<220>
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tat tat att ctc tta aag ata ctg gag aca gag cat gat ggg aca aaa      96
Tyr Tyr Ile Leu Leu Lys Ile Leu Glu Thr Glu His Asp Gly Thr Lys
      20      25      30

tca aac cag cat ctc aga ctt cct gct cct ggc ctg ccc atc caa cca      144
Ser Asn Gln His Leu Arg Leu Pro Ala Pro Gly Leu Pro Ile Gln Pro
      35      40      45

gag cag caa aac ctg tgc tat gcc ctg ttc ttg gcc atg tat ctt acc      192
Glu Gln Gln Asn Leu Cys Tyr Ala Leu Phe Leu Ala Met Tyr Leu Thr
      50      55      60

acc ctc ctg ggg aac ctc ctc atc att gtc ctc att cga ctg gac tcc      240
Thr Leu Leu Gly Asn Leu Leu Ile Ile Val Leu Ile Arg Leu Asp Ser
65      70      75      80

cat ctc cac acg cct gtg tat ttg ttt ctc agc aac ttg tcc ttc tct      288
His Leu His Thr Pro Val Tyr Leu Phe Leu Ser Asn Leu Ser Phe Ser
      85      90      95

gac ctc tgc ttt tcc tca gtc aca atg ccc aaa ttg ctg cag aac atg      336
Asp Leu Cys Phe Ser Ser Val Thr Met Pro Lys Leu Leu Gln Asn Met
      100      105      110

cag aac caa gac cca tcc atc ccc tat gca gac tgc ctg acc caa atg      384
Gln Asn Gln Asp Pro Ser Ile Pro Tyr Ala Asp Cys Leu Thr Gln Met
      115      120      125

tac ttc ttc ttg tat ttt tgc gat cta gag agc ttc ctc ctt gtg gcc      432
Tyr Phe Phe Leu Tyr Phe Ser Asp Leu Glu Ser Phe Leu Leu Val Ala
      130      135      140

atg gcc tat gac cgc tat gtg gcc atc tgc ttc ccc atg cac tac acc      480
Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Phe Pro Met His Tyr Thr
      145      150      155      160

gcc atc tgc ttc ctc ctg cac tac acc gcc atc atg agc ccc atg ctc      528
Ala Ile Cys Phe Leu Leu His Tyr Thr Ala Ile Met Ser Pro Met Leu
      165      170      175

tgt ctc tcc gtg gtg gcg ctg tcc tgg gtg ctg acc acc ttc cat gcc      576

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Cys	Leu	Ser	Val	Val	Ala	Leu	Ser	Trp	Val	Leu	Thr	Thr	Phe	His	Ala		
			180					185					190				
atg	tta	cac	act	tta	ctc	atg	gcc	agg	ttg	tgt	ttt	tgt	gca	gac	aat		624
Met	Leu	His	Thr	Leu	Leu	Met	Ala	Arg	Leu	Cys	Phe	Cys	Ala	Asp	Asn		
		195					200					205					
gtg	atc	ccc	cac	ttt	ttc	tgt	gat	atg	tct	gct	ctg	ctg	aag	ctg	gcc		672
Val	Ile	Pro	His	Phe	Phe	Cys	Asp	Met	Ser	Ala	Leu	Leu	Lys	Leu	Ala		
	210					215					220						
tgc	tct	gac	act	cga	gtt	aat	gaa	tgg	gtg	ata	ttt	atc	atg	gga	ggg		720
Cys	Ser	Asp	Thr	Arg	Val	Asn	Glu	Trp	Val	Ile	Phe	Ile	Met	Gly	Gly		
225					230					235				240			
ctc	att	ctt	gtc	atc	cca	ttc	cta	ctc	atc	ctt	ggg	tcc	tat	gca	aga		768
Leu	Ile	Leu	Val	Ile	Pro	Phe	Leu	Leu	Ile	Leu	Gly	Ser	Tyr	Ala	Arg		
			245					250						255			
att	gtc	tcc	tcc	atc	ctc	aag	gtc	cct	tct	tct	aag	ggt	atc	tgc	aag		816
Ile	Val	Ser	Ser	Ile	Leu	Lys	Val	Pro	Ser	Ser	Lys	Gly	Ile	Cys	Lys		
			260					265					270				
gcc	ttc	tct	act	tgt	ggc	tcc	cac	ctc	tct	gtg	gtg	tca	ctg	ttc	tat		864
Ala	Phe	Ser	Thr	Cys	Gly	Ser	His	Leu	Ser	Val	Val	Ser	Leu	Phe	Tyr		
	275						280					285					
ggg	acc	gtt	att	ggt	ctc	tac	tta	tgc	cca	tca	gct	aat	agt	tct	act		912
Gly	Thr	Val	Ile	Gly	Leu	Tyr	Leu	Cys	Pro	Ser	Ala	Asn	Ser	Ser	Thr		
	290					295					300						
cta	aag	gac	act	gtc	atg	gct	atg	atg	tac	act	gtg	gtg	acc	cct	atg		960
Leu	Lys	Asp	Thr	Val	Met	Ala	Met	Met	Tyr	Thr	Val	Val	Thr	Pro	Met		
305					310					315					320		
ctg	acc	ccc	ttc	atc	tac	agc	ctg	agg	aac	aga	gac	atg	aag	gga	gcc		1008
Leu	Thr	Pro	Phe	Ile	Tyr	Ser	Leu	Arg	Asn	Arg	Asp	Met	Lys	Gly	Ala		
			325					330						335			
ctg	gaa	agg	gtc	att	tgt	aaa	agg	aaa	aat	ccc	ttc	ctt	cta	tga			1053
Leu	Glu	Arg	Val	Ile	Cys	Lys	Arg	Lys	Asn	Pro	Phe	Leu	Leu				
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<210> 486
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 <212> PRT
 <213> Homo Sapiens

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 <223> The 'Xaa' at location 9 stands for Tyr, Cys, Ser, or Phe.

 <220>
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727

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 275 280 285

Gly Thr Val Ile Gly Leu Tyr Leu Cys Pro Ser Ala Asn Ser Ser Thr
 290 295 300

Leu Lys Asp Thr Val Met Ala Met Met Tyr Thr Val Val Thr Pro Met
 305 310 315 320

Leu Thr Pro Phe Ile Tyr Ser Leu Arg Asn Arg Asp Met Lys Gly Ala
 325 330 335

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 340 345 350

<210> 487
 <211> 972
 <212> DNA
 <213> Homo Sapiens

<220>
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Met Met Gly Gln Asn Gln Thr Ser Ile Ser Asp Phe Leu Leu Leu Gly
 1 5 10 15

ctg ccc atc caa cca gag cag caa aac ctg tgc tat gcc ctg ttc ttg 96
 Leu Pro Ile Gln Pro Glu Gln Gln Asn Leu Cys Tyr Ala Leu Phe Leu
 20 25 30

gcc atg tat ctt acc acc ctc ctg ggg aac ctc ctc atc att gtc ctc 144
 Ala Met Tyr Leu Thr Thr Leu Leu Gly Asn Leu Leu Ile Ile Val Leu
 35 40 45

att cga ctg gac tcc cat ctc cac acg cct gtg tat ttg ttt ctc agc 192
 Ile Arg Leu Asp Ser His Leu His Thr Pro Val Tyr Leu Phe Leu Ser
 50 55 60

aac ttg tcc ttc tct gac ctc tgc ttt tcc tca gtc aca atg ccc aaa 240
 Asn Leu Ser Phe Ser Asp Leu Cys Phe Ser Ser Val Thr Met Pro Lys
 65 70 75 80

ttg ctg cag aac atg cag aac caa gac cca tcc atc ccc tat gca gac 288
 Leu Leu Gln Asn Met Gln Asn Gln Asp Pro Ser Ile Pro Tyr Ala Asp
 85 90 95

tgc ctg acc caa atg tac ttc ttc ttg tat ttt tcg gat cta gag agc Cys Leu Thr Gln Met Tyr Phe Phe Leu Tyr Phe Ser Asp Leu Glu Ser 100 105 110	336
ttc ctc ctt gtg gcc atg gcc tat gac cgc tat gtg gcc atc tgc ttc Phe Leu Leu Val Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Phe 115 120 125	384
ccc atg cac tac acc gcc atc tgc ttc ctc ctg cac tac acc gcc atc Pro Met His Tyr Thr Ala Ile Cys Phe Leu Leu His Tyr Thr Ala Ile 130 135 140	432
atg agc ccc atg ctc tgt ctc tcc gtg gtg gcg ctg tcc tgg gtg ctg Met Ser Pro Met Leu Cys Leu Ser Val Val Ala Leu Ser Trp Val Leu 145 150 155 160	480
acc acc ttc cat gcc atg tta cac act tta ctc atg gcc agg ttg tgt Thr Thr Phe His Ala Met Leu His Thr Leu Leu Met Ala Arg Leu Cys 165 170 175	528
ttt tgt gca gac aat gtg atc ccc cac ttt ttc tgt gat atg tct gct Phe Cys Ala Asp Asn Val Ile Pro His Phe Phe Cys Asp Met Ser Ala 180 185 190	576
ctg ctg aag ctg gcc tgc tct gac act cga gtt aat gaa tgg gtg ata Leu Leu Lys Leu Ala Cys Ser Asp Thr Arg Val Asn Glu Trp Val Ile 195 200 205	624
ttt atc atg gga ggg ctc att ctt gtc atc cca ttc cta ctc atc ctt Phe Ile Met Gly Gly Leu Ile Leu Val Ile Pro Phe Leu Leu Ile Leu 210 215 220	672
ggg tcc tat gca aga att gtc tcc tcc atc ctc aag gtc cct tct tct Gly Ser Tyr Ala Arg Ile Val Ser Ser Ile Leu Lys Val Pro Ser Ser 225 230 235 240	720
aag ggt atc tgc aag gcc ttc tct act tgt ggc tcc cac ctc tct gtg Lys Gly Ile Cys Lys Ala Phe Ser Thr Cys Gly Ser His Leu Ser Val 245 250 255	768
gtg tca ctg ttc tat ggg acc gtt att ggt ctc tac tta tgc cca tca Val Ser Leu Phe Tyr Gly Thr Val Ile Gly Leu Tyr Leu Cys Pro Ser 260 265 270	816
gct aat agt tct act cta aag gac act gtc atg gct atg atg tac act Ala Asn Ser Ser Thr Leu Lys Asp Thr Val Met Ala Met Met Tyr Thr 275 280 285	864
gtg gtg acc cct atg ctg acc ccc ttc atc tac agc ctg agg aac aga Val Val Thr Pro Met Leu Thr Pro Phe Ile Tyr Ser Leu Arg Asn Arg 290 295 300	912
gac atg aag gga gcc ctg gaa agg gtc att tgt aaa agg aaa aat ccc Asp Met Lys Gly Ala Leu Glu Arg Val Ile Cys Lys Arg Lys Asn Pro 305 310 315 320	960
ttc ctt cta tga Phe Leu Leu	972

<210> 488
 <211> 323
 <212> PRT
 <213> Homo Sapiens

<400> 488

Met Met Gly Gln Asn Gln Thr Ser Ile Ser Asp Phe Leu Leu Leu Gly
 1 5 10 15

Leu Pro Ile Gln Pro Glu Gln Gln Asn Leu Cys Tyr Ala Leu Phe Leu
 20 25 30

Ala Met Tyr Leu Thr Thr Leu Leu Gly Asn Leu Leu Ile Ile Val Leu
 35 40 45

Ile Arg Leu Asp Ser His Leu His Thr Pro Val Tyr Leu Phe Leu Ser
 50 55 60

Asn Leu Ser Phe Ser Asp Leu Cys Phe Ser Ser Val Thr Met Pro Lys
 65 70 75 80

Leu Leu Gln Asn Met Gln Asn Gln Asp Pro Ser Ile Pro Tyr Ala Asp
 85 90 95

Cys Leu Thr Gln Met Tyr Phe Phe Leu Tyr Phe Ser Asp Leu Glu Ser
 100 105 110

Phe Leu Leu Val Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Phe
 115 120 125

Pro Met His Tyr Thr Ala Ile Cys Phe Leu Leu His Tyr Thr Ala Ile
 130 135 140

Met Ser Pro Met Leu Cys Leu Ser Val Val Ala Leu Ser Trp Val Leu
 145 150 155 160

Thr Thr Phe His Ala Met Leu His Thr Leu Leu Met Ala Arg Leu Cys
 165 170 175

Phe Cys Ala Asp Asn Val Ile Pro His Phe Phe Cys Asp Met Ser Ala
 180 185 190

Leu Leu Lys Leu Ala Cys Ser Asp Thr Arg Val Asn Glu Trp Val Ile
 195 200 205

Phe Ile Met Gly Gly Leu Ile Leu Val Ile Pro Phe Leu Leu Ile Leu
 210 215 220

Gly Ser Tyr Ala Arg Ile Val Ser Ser Ile Leu Lys Val Pro Ser Ser
225 230 235 240

Lys Gly Ile Cys Lys Ala Phe Ser Thr Cys Gly Ser His Leu Ser Val
245 250 255

Val Ser Leu Phe Tyr Gly Thr Val Ile Gly Leu Tyr Leu Cys Pro Ser
260 265 270

Ala Asn Ser Ser Thr Leu Lys Asp Thr Val Met Ala Met Met Tyr Thr
275 280 285

Val Val Thr Pro Met Leu Thr Pro Phe Ile Tyr Ser Leu Arg Asn Arg
290 295 300

Asp Met Lys Gly Ala Leu Glu Arg Val Ile Cys Lys Arg Lys Asn Pro
305 310 315 320

Phe Leu Leu

<210> 489
<211> 954
<212> DNA
<213> Homo Sapiens

<220>
<221> CDS
<222> (1) .. (951)
<223>

<400> 489atg gaa gga aag aat caa aca gct cca tct gaa ttc atc atc ttg ggg
48

Met Glu Gly Lys Asn Gln Thr Ala Pro Ser Glu Phe Ile Ile Leu Gly
1 5 10 15

ttc gac cac ctg aat gaa ttg cag tat tta ctc ttc acc atc ttc ttt 96
Phe Asp His Leu Asn Glu Leu Gln Tyr Leu Leu Phe Thr Ile Phe Phe
20 25 30

ctg acc tac ata tgc act tta gga ggc aat gtt ttt atc att gtg gtg 144
Leu Thr Tyr Ile Cys Thr Leu Gly Gly Asn Val Phe Ile Ile Val Val
35 40 45

acc ata gct gat tcc cac cta cac aca ccc atg tat tat ttc cta gga 192
Thr Ile Ala Asp Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Gly
50 55 60

aat ctt gcc ctt att gac atc tgc tac act act act aat gtc ccc cag 240
Asn Leu Ala Leu Ile Asp Ile Cys Tyr Thr Thr Thr Asn Val Pro Gln
65 70 75 80

atg atg gtg cat ctt ctg tca gag aag aaa atc att tcc tat gga ggc	288
Met Met Val His Leu Leu Ser Glu Lys Lys Ile Ile Ser Tyr Gly Gly	
85 90 95	
tgt gtg acc cag ctc ttt gca ttc att ttc ttt gtt ggc tca gag tgt	336
Cys Val Thr Gln Leu Phe Ala Phe Ile Phe Phe Val Gly Ser Glu Cys	
100 105 110	
ctc ctc ctg gca gca atg gca tat gat cga tat att gct atc tgt aag	384
Leu Leu Leu Ala Ala Met Ala Tyr Asp Arg Tyr Ile Ala Ile Cys Lys	
115 120 125	
ccg tta agg tac tca ttt att atg aac aag gcc ctg tgc agc tgg tta	432
Pro Leu Arg Tyr Ser Phe Ile Met Asn Lys Ala Leu Cys Ser Trp Leu	
130 135 140	
gca gcc tca tgc tgg aca tgt ggg ttt ctc aac tca gtg ttg cac acc	480
Ala Ala Ser Cys Trp Thr Cys Gly Phe Leu Asn Ser Val Leu His Thr	
145 150 155 160	
gtt ctg acc ttc cac ctg ccc ttc tgt ggt aac aat cag atc aat tat	528
Val Leu Thr Phe His Leu Pro Phe Cys Gly Asn Asn Gln Ile Asn Tyr	
165 170 175	
ttc ttc tgt gac ata cct ccc ttg ctc atc ttg tct tgt ggt gat act	576
Phe Phe Cys Asp Ile Pro Pro Leu Leu Ile Leu Ser Cys Gly Asp Thr	
180 185 190	
tcc ctc aat gaa ctg gct ttg ctg tcc att ggg atc ctc ata agc tgg	624
Ser Leu Asn Glu Leu Ala Leu Leu Ser Ile Gly Ile Leu Ile Ser Trp	
195 200 205	
act cct ttc ctg tgc atc atc ctt tcc tac ctt tac atc atc tcc acc	672
Thr Pro Phe Leu Cys Ile Ile Leu Ser Tyr Leu Tyr Ile Ile Ser Thr	
210 215 220	
atc ctg agg atc cgt tcc tct gag ggg agg cac aaa gcc ttt tcc acc	720
Ile Leu Arg Ile Arg Ser Ser Glu Gly Arg His Lys Ala Phe Ser Thr	
225 230 235 240	
tgt gcc tcc cac ctg ctc att gtt att ctc tat tat ggc agt gct atc	768
Cys Ala Ser His Leu Leu Ile Val Ile Leu Tyr Tyr Gly Ser Ala Ile	
245 250 255	
ttc acg tat gtg agg ccc atc tca tct tac tct cta gag aaa gat aga	816
Phe Thr Tyr Val Arg Pro Ile Ser Ser Tyr Ser Leu Glu Lys Asp Arg	
260 265 270	
ttg atc tca gtg ctg tat agt gtt gtc aca ccc atg ctg aat cct gta	864
Leu Ile Ser Val Leu Tyr Ser Val Val Thr Pro Met Leu Asn Pro Val	
275 280 285	
att tat acg cta agg aat aag gac atc aaa gag gct gtg aag gcc ata	912
Ile Tyr Thr Leu Arg Asn Lys Asp Ile Lys Glu Ala Val Lys Ala Ile	
290 295 300	
ggg aga aag tgg cag cca cca gtt ttc tct tct gat ata taa	954
Gly Arg Lys Trp Gln Pro Pro Val Phe Ser Ser Asp Ile	
305 310 315	

<210> 490
 <211> 317
 <212> PRT
 <213> Homo Sapiens

<400> 490

Met Glu Gly Lys Asn Gln Thr Ala Pro Ser Glu Phe Ile Ile Leu Gly
 1 5 10 15

Phe Asp His Leu Asn Glu Leu Gln Tyr Leu Leu Phe Thr Ile Phe Phe
 20 25 30

Leu Thr Tyr Ile Cys Thr Leu Gly Gly Asn Val Phe Ile Ile Val Val
 35 40 45

Thr Ile Ala Asp Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Gly
 50 55 60

Asn Leu Ala Leu Ile Asp Ile Cys Tyr Thr Thr Thr Asn Val Pro Gln
 65 70 75 80

Met Met Val His Leu Leu Ser Glu Lys Lys Ile Ile Ser Tyr Gly Gly
 85 90 95

Cys Val Thr Gln Leu Phe Ala Phe Ile Phe Phe Val Gly Ser Glu Cys
 100 105 110

Leu Leu Leu Ala Ala Met Ala Tyr Asp Arg Tyr Ile Ala Ile Cys Lys
 115 120 125

Pro Leu Arg Tyr Ser Phe Ile Met Asn Lys Ala Leu Cys Ser Trp Leu
 130 135 140

Ala Ala Ser Cys Trp Thr Cys Gly Phe Leu Asn Ser Val Leu His Thr
 145 150 155 160

Val Leu Thr Phe His Leu Pro Phe Cys Gly Asn Asn Gln Ile Asn Tyr
 165 170 175

Phe Phe Cys Asp Ile Pro Pro Leu Leu Ile Leu Ser Cys Gly Asp Thr
 180 185 190

Ser Leu Asn Glu Leu Ala Leu Leu Ser Ile Gly Ile Leu Ile Ser Trp
 195 200 205

Thr Pro Phe Leu Cys Ile Ile Leu Ser Tyr Leu Tyr Ile Ile Ser Thr
 210 215 220

Ile Leu Arg Ile Arg Ser Ser Glu Gly Arg His Lys Ala Phe Ser Thr
225 230 235 240

Cys Ala Ser His Leu Leu Ile Val Ile Leu Tyr Tyr Gly Ser Ala Ile
245 250 255

Phe Thr Tyr Val Arg Pro Ile Ser Ser Tyr Ser Leu Glu Lys Asp Arg
260 265 270

Leu Ile Ser Val Leu Tyr Ser Val Val Thr Pro Met Leu Asn Pro Val
275 280 285

Ile Tyr Thr Leu Arg Asn Lys Asp Ile Lys Glu Ala Val Lys Ala Ile
290 295 300

Gly Arg Lys Trp Gln Pro Pro Val Phe Ser Ser Asp Ile
305 310 315

<210> 491
<211> 975
<212> DNA
<213> Homo Sapiens

<220>
<221> CDS
<222> (1)..(975)
<223>

<400> 491atg gct gaa gtt aat atc att tat gtc act gta ttc att ctg aaa gga
48

Met Ala Glu Val Asn Ile Ile Tyr Val Thr Val Phe Ile Leu Lys Gly
1 5 10 15

att acc aac cgg cca gag ctt cag gcc ccg tgc ttt ggg gtg ttt tta 96
Ile Thr Asn Arg Pro Glu Leu Gln Ala Pro Cys Phe Gly Val Phe Leu
20 25 30

gtt atc tat ctg gtc aca gtg ctg ggc aat ctt ggg ttg att act tta 144
Val Ile Tyr Leu Val Thr Val Leu Gly Asn Leu Gly Leu Ile Thr Leu
35 40 45

atc aag att gat act cga ctc cac aca cct atg tac tat ttc ctc agc 192
Ile Lys Ile Asp Thr Arg Leu His Thr Pro Met Tyr Tyr Phe Leu Ser
50 55 60

cac ctg gcc ttt gtt gac ctt tgt tac tcc tct gct att aca ccg aag 240
His Leu Ala Phe Val Asp Leu Cys Tyr Ser Ser Ala Ile Thr Pro Lys
65 70 75 80

atg atg gtg aat ttt gtt gtg gaa cgc aac acc att cct ttc cat gct 288
Met Met Val Asn Phe Val Val Glu Arg Asn Thr Ile Pro Phe His Ala
85 90 95

tgt gca acc caa ctg ggt tgt ttt ctc acc ttc atg atc act gag tgt	336
Cys Ala Thr Gln Leu Gly Cys Phe Leu Thr Phe Met Ile Thr Glu Cys	
100 105 110	
ttc ctt cta gcc tcc atg gcc tac gat tgc tat gtc gcc atc tgt agt	384
Phe Leu Leu Ala Ser Met Ala Tyr Asp Cys Tyr Val Ala Ile Cys Ser	
115 120 125	
ccc ctg cat tat tca aca ctg atg tca aga aga gtc tgc att caa ctg	432
Pro Leu His Tyr Ser Thr Leu Met Ser Arg Arg Val Cys Ile Gln Leu	
130 135 140	
gtg gca gtt cca tat ata tac agc ttc ctg gtt gcc ctc ttc cac acc	480
Val Ala Val Pro Tyr Ile Tyr Ser Phe Leu Val Ala Leu Phe His Thr	
145 150 155 160	
gtt atc act ttc cgt ctg act tac tgt ggc cca aac tta att aac cat	528
Val Ile Thr Phe Arg Leu Thr Tyr Cys Gly Pro Asn Leu Ile Asn His	
165 170 175	
ttc tat tgt gat gac ctc ccc ttc tta gct ctg tcc tgc tca gac aca	576
Phe Tyr Cys Asp Asp Leu Pro Phe Leu Ala Leu Ser Cys Ser Asp Thr	
180 185 190	
cac atg aag gaa att ctg ata ttt gcc ttt gct ggc ttt gat atg atc	624
His Met Lys Glu Ile Leu Ile Phe Ala Phe Ala Gly Phe Asp Met Ile	
195 200 205	
tct tcc tct tcc att gtc ctc acc tcc tac atc ttt att att gcc gct	672
Ser Ser Ser Ser Ile Val Leu Thr Ser Tyr Ile Phe Ile Ile Ala Ala	
210 215 220	
atc cta agg atc cgc tct act cag ggg caa cac aaa gcc att tcc acc	720
Ile Leu Arg Ile Arg Ser Thr Gln Gly Gln His Lys Ala Ile Ser Thr	
225 230 235 240	
tgt ggc tcc cat atg gtg act gtc act att ttc tat ggc aca ctg atc	768
Cys Gly Ser His Met Val Thr Val Thr Ile Phe Tyr Gly Thr Leu Ile	
245 250 255	
ttt atg tac cta cag ccc aaa tca aat cac tcc ttg gac aca gac aag	816
Phe Met Tyr Leu Gln Pro Lys Ser Asn His Ser Leu Asp Thr Asp Lys	
260 265 270	
atg gct tct gta ttt tac aca gtg gtg atc ccc atg tta aac ccc cta	864
Met Ala Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu	
275 280 285	
atc tat agt cta agg aac aaa gaa gtg aaa gat gcc tca aag aaa gcc	912
Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Asp Ala Ser Lys Lys Ala	
290 295 300	
ttg gat aaa ggt tgt gaa aac tta cag ata tta aca ttt tta aaa ata	960
Leu Asp Lys Gly Cys Glu Asn Leu Gln Ile Leu Thr Phe Leu Lys Ile	
305 310 315 320	
aga aaa ctt tat taa	975
Arg Lys Leu Tyr	

<210> 492
 <211> 324
 <212> PRT
 <213> Homo Sapiens

<400> 492

Met Ala Glu Val Asn Ile Ile Tyr Val Thr Val Phe Ile Leu Lys Gly
 1 5 10 15

Ile Thr Asn Arg Pro Glu Leu Gln Ala Pro Cys Phe Gly Val Phe Leu
 20 25 30

Val Ile Tyr Leu Val Thr Val Leu Gly Asn Leu Gly Leu Ile Thr Leu
 35 40 45

Ile Lys Ile Asp Thr Arg Leu His Thr Pro Met Tyr Tyr Phe Leu Ser
 50 55 60

His Leu Ala Phe Val Asp Leu Cys Tyr Ser Ser Ala Ile Thr Pro Lys
 65 70 75 80

Met Met Val Asn Phe Val Val Glu Arg Asn Thr Ile Pro Phe His Ala
 85 90 95

Cys Ala Thr Gln Leu Gly Cys Phe Leu Thr Phe Met Ile Thr Glu Cys
 100 105 110

Phe Leu Leu Ala Ser Met Ala Tyr Asp Cys Tyr Val Ala Ile Cys Ser
 115 120 125

Pro Leu His Tyr Ser Thr Leu Met Ser Arg Arg Val Cys Ile Gln Leu
 130 135 140

Val Ala Val Pro Tyr Ile Tyr Ser Phe Leu Val Ala Leu Phe His Thr
 145 150 155 160

Val Ile Thr Phe Arg Leu Thr Tyr Cys Gly Pro Asn Leu Ile Asn His
 165 170 175

Phe Tyr Cys Asp Asp Leu Pro Phe Leu Ala Leu Ser Cys Ser Asp Thr
 180 185 190

His Met Lys Glu Ile Leu Ile Phe Ala Phe Ala Gly Phe Asp Met Ile
 195 200 205

Ser Ser Ser Ser Ile Val Leu Thr Ser Tyr Ile Phe Ile Ile Ala Ala
 210 215 220

Ile Leu Arg Ile Arg Ser Thr Gln Gly Gln His Lys Ala Ile Ser Thr
225 230 235 240

Cys Gly Ser His Met Val Thr Val Thr Ile Phe Tyr Gly Thr Leu Ile
245 250 255

Phe Met Tyr Leu Gln Pro Lys Ser Asn His Ser Leu Asp Thr Asp Lys
260 265 270

Met Ala Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu
275 280 285

Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Asp Ala Ser Lys Lys Ala
290 295 300

Leu Asp Lys Gly Cys Glu Asn Leu Gln Ile Leu Thr Phe Leu Lys Ile
305 310 315 320

Arg Lys Leu Tyr

<210> 493

<211> 945

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(942)

<223>

<400> 493atg gcc aga aaa gat atg gct cac atc aat tgc acc cag gcg aca gag
48

Met Ala Arg Lys Asp Met Ala His Ile Asn Cys Thr Gln Ala Thr Glu
1 5 10 15

ttt att ctt gtg ggc ctc aca gac cat cag gag ttg aag atg ccc ctc 96
Phe Ile Leu Val Gly Leu Thr Asp His Gln Glu Leu Lys Met Pro Leu
20 25 30

ttt gtg cta ttc tta tcc atc tac ctc ttc aca gtg gta ggc aac ttg 144
Phe Val Leu Phe Leu Ser Ile Tyr Leu Phe Thr Val Val Gly Asn Leu
35 40 45

ggc ttg atc cta ctc att aga gcg gat aca agt ctc aac aca cca atg 192
Gly Leu Ile Leu Leu Ile Arg Ala Asp Thr Ser Leu Asn Thr Pro Met
50 55 60

tac ttc ttt ctt agc aac cta gct ttt gtg gat ttc tgt tac tct tct 240
Tyr Phe Phe Leu Ser Asn Leu Ala Phe Val Asp Phe Cys Tyr Ser Ser
65 70 75 80

gtc att aca ccc aaa atg ctt ggg aat ttc ttg tac aaa caa aat gtt Val Ile Thr Pro Lys Met Leu Gly Asn Phe Leu Tyr Lys Gln Asn Val 85 90 95	288
ata tcc ttt gat gca tgt gct act caa ctg ggc tgc ttt ctc acc ttc Ile Ser Phe Asp Ala Cys Ala Thr Gln Leu Gly Cys Phe Leu Thr Phe 100 105 110	336
atg ata tca gaa tcc ttg cta ctg gct tcc atg gcc tat gac cga tat Met Ile Ser Glu Ser Leu Leu Leu Ala Ser Met Ala Tyr Asp Arg Tyr 115 120 125	384
gtg gcc att tgt aac cct cta ttg tat atg gtt gta atg act cca gga Val Ala Ile Cys Asn Pro Leu Tyr Met Val Met Thr Pro Gly 130 135 140	432
atc tgc att caa ctt gta gca gtt cct tat agc tat agc ttc cta atg Ile Cys Ile Gln Leu Val Ala Val Pro Tyr Ser Tyr Ser Phe Leu Met 145 150 155 160	480
gca cta ttt cac acc atc ctc acc ttc cgc ctc tcc tat tgc cac tcc Ala Leu Phe His Thr Ile Leu Thr Phe Arg Leu Ser Tyr Cys His Ser 165 170 175	528
aac att gtc aac cat ttc tat tgt gat gac atg cct ctc ctc agg cta Asn Ile Val Asn His Phe Tyr Cys Asp Asp Met Pro Leu Leu Arg Leu 180 185 190	576
act tgc tca gac act cgc ttc aaa cag ctc tgg atc ttt gcc tgt gct Thr Cys Ser Asp Thr Arg Phe Lys Gln Leu Trp Ile Phe Ala Cys Ala 195 200 205	624
ggg atc atg ttc att tcc tcc ctt ctg att gtc ttt gtc tcc tac atg Gly Ile Met Phe Ile Ser Ser Leu Leu Ile Val Phe Val Ser Tyr Met 210 215 220	672
ttc atc att tct gcc atc ctg agg atg cat tca gct gag gga aga cag Phe Ile Ile Ser Ala Ile Leu Arg Met His Ser Ala Glu Gly Arg Gln 225 230 235 240	720
aag gct ttc tcg acg tgt ggc tct cac atg ctg gca gtc acc ata ttc Lys Ala Phe Ser Thr Cys Gly Ser His Met Leu Ala Val Thr Ile Phe 245 250 255	768
tat ggg acc ctc att ttt atg tac tta cag cct agc tct agc cat gcc Tyr Gly Thr Leu Ile Phe Met Tyr Leu Gln Pro Ser Ser Ser His Ala 260 265 270	816
ctg gac aca gac aag atg gcc tct gtc ttc tac aca gtg atc att ccc Leu Asp Thr Asp Lys Met Ala Ser Val Phe Tyr Thr Val Ile Ile Pro 275 280 285	864
atg ttg aat ccc tta atc tat agc ctc cag aat aag gag gtg aaa gaa Met Leu Asn Pro Leu Ile Tyr Ser Leu Gln Asn Lys Glu Val Lys Glu 290 295 300	912
gct ctg aag aaa atc att atc aat aaa aac tag Ala Leu Lys Lys Ile Ile Ile Asn Lys Asn 305 310	945

<210> 494

<211> 314

<212> PRT

<213> Homo Sapiens

<400> 494

Met Ala Arg Lys Asp Met Ala His Ile Asn Cys Thr Gln Ala Thr Glu
 1 5 10 15

Phe Ile Leu Val Gly Leu Thr Asp His Gln Glu Leu Lys Met Pro Leu
 20 25 30

Phe Val Leu Phe Leu Ser Ile Tyr Leu Phe Thr Val Val Gly Asn Leu
 35 40 45

Gly Leu Ile Leu Leu Ile Arg Ala Asp Thr Ser Leu Asn Thr Pro Met
 50 55 60

Tyr Phe Phe Leu Ser Asn Leu Ala Phe Val Asp Phe Cys Tyr Ser Ser
 65 70 75 80

Val Ile Thr Pro Lys Met Leu Gly Asn Phe Leu Tyr Lys Gln Asn Val
 85 90 95

Ile Ser Phe Asp Ala Cys Ala Thr Gln Leu Gly Cys Phe Leu Thr Phe
 100 105 110

Met Ile Ser Glu Ser Leu Leu Leu Ala Ser Met Ala Tyr Asp Arg Tyr
 115 120 125

Val Ala Ile Cys Asn Pro Leu Leu Tyr Met Val Val Met Thr Pro Gly
 130 135 140

Ile Cys Ile Gln Leu Val Ala Val Pro Tyr Ser Tyr Ser Phe Leu Met
 145 150 155 160

Ala Leu Phe His Thr Ile Leu Thr Phe Arg Leu Ser Tyr Cys His Ser
 165 170 175

Asn Ile Val Asn His Phe Tyr Cys Asp Asp Met Pro Leu Leu Arg Leu
 180 185 190

Thr Cys Ser Asp Thr Arg Phe Lys Gln Leu Trp Ile Phe Ala Cys Ala
 195 200 205

Gly Ile Met Phe Ile Ser Ser Leu Leu Ile Val Phe Val Ser Tyr Met
 210 215 220

Phe Ile Ile Ser Ala Ile Leu Arg Met His Ser Ala Glu Gly Arg Gln
 225 230 235 240

Lys Ala Phe Ser Thr Cys Gly Ser His Met Leu Ala Val Thr Ile Phe
 245 250 255

Tyr Gly Thr Leu Ile Phe Met Tyr Leu Gln Pro Ser Ser Ser His Ala
 260 265 270

Leu Asp Thr Asp Lys Met Ala Ser Val Phe Tyr Thr Val Ile Ile Pro
 275 280 285

Met Leu Asn Pro Leu Ile Tyr Ser Leu Gln Asn Lys Glu Val Lys Glu
 290 295 300

Ala Leu Lys Lys Ile Ile Ile Asn Lys Asn
 305 310

<210> 495
 <211> 945
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (1)..(942)
 <223>

<400> 495atg gag aac aac aca gag gtg act gaa ttc atc ctt gtg ggg tta act
 48

Met Glu Asn Asn Thr Glu Val Thr Glu Phe Ile Leu Val Gly Leu Thr
 1 5 10 15

gat gac cca gaa ctg cag atc cca ctc ttc ata gtc ttc ctt ttc atc 96
 Asp Asp Pro Glu Leu Gln Ile Pro Leu Phe Ile Val Phe Leu Phe Ile
 20 25 30

tac ctc atc act ctg gtt ggg aac ctg ggg atg att gaa ttg att cta 144
 Tyr Leu Ile Thr Leu Val Gly Asn Leu Gly Met Ile Glu Leu Ile Leu
 35 40 45

ctg gac tcc tgt ctc cac acc ccc atg tac ttc ttc ctc agt aac ctc 192
 Leu Asp Ser Cys Leu His Thr Pro Met Tyr Phe Phe Leu Ser Asn Leu
 50 55 60

tcc ctg gtg gac ttt ggt tat tcc tca gct gtc act ccc aag gtg atg 240
 Ser Leu Val Asp Phe Gly Tyr Ser Ser Ala Val Thr Pro Lys Val Met
 65 70 75 80

gtg ggg ttt ctc aca gga gac aaa ttc ata tta tat aat gct tgt gcc 288
 Val Gly Phe Leu Thr Gly Asp Lys Phe Ile Leu Tyr Asn Ala Cys Ala
 85 90 95

aca caa ttc ttc ttc ttt gta gcc ttt atc act gca gaa agt ttc ctc Thr Gln Phe Phe Phe Val Ala Phe Ile Thr Ala Glu Ser Phe Leu 100 105 110	336
ctg gca tca atg gcc tat gac cgc tat gca gca ttg tgt aaa ccc ctg Leu Ala Ser Met Ala Tyr Asp Arg Tyr Ala Ala Leu Cys Lys Pro Leu 115 120 125	384
cat tac acc acc acc atg aca aca aat gta tgt gct tgc ctg gcc ata His Tyr Thr Thr Thr Met Thr Thr Asn Val Cys Ala Cys Leu Ala Ile 130 135 140	432
ggc tcc tac atc tgt ggt ttc ctg aat gca tcc att cat act ggg aac Gly Ser Tyr Ile Cys Gly Phe Leu Asn Ala Ser Ile His Thr Gly Asn 145 150 155 160	480
act ttc agg ctc tcc ttc tgt aga tcc aat gta gtt gaa cac ttt ttc Thr Phe Arg Leu Ser Phe Cys Arg Ser Asn Val Val Glu His Phe Phe 165 170 175	528
tgt gat gct cct cct ctc ttg act ctc tca tgt tca gac aac tac atc Cys Asp Ala Pro Pro Leu Leu Thr Leu Ser Cys Ser Asp Asn Tyr Ile 180 185 190	576
agt gag atg gtt att ttt ttt gtg gtg gga ttc aat gac ctc ttt tct Ser Glu Met Val Ile Phe Phe Val Val Gly Phe Asn Asp Leu Phe Ser 195 200 205	624
atc ctg gta atc ttg atc tcc tac tta ttt ata ttt atc acc atc atg Ile Leu Val Ile Leu Ile Ser Tyr Leu Phe Ile Phe Ile Thr Ile Met 210 215 220	672
aag atg cgc tca cct gaa gga cgc cag aag gcc ttt tct act tgt gct Lys Met Arg Ser Pro Glu Gly Arg Gln Lys Ala Phe Ser Thr Cys Ala 225 230 235 240	720
tcc cac ctt act gca gtt tcc atc ttt tat ggg aca gga atc ttt atg Ser His Leu Thr Ala Val Ser Ile Phe Tyr Gly Thr Gly Ile Phe Met 245 250 255	768
tac tta cga cct aac tcc agc cat ttc atg ggc aca gac aaa atg gca Tyr Leu Arg Pro Asn Ser Ser His Phe Met Gly Thr Asp Lys Met Ala 260 265 270	816
tct gtg ttc tat gcc ata gtc att ccc atg ttg aat cca ctg gtc tac Ser Val Phe Tyr Ala Ile Val Ile Pro Met Leu Asn Pro Leu Val Tyr 275 280 285	864
agc ctg agg aac aaa gag gtt aag agt gcc ttt aaa aag act gta ggg Ser Leu Arg Asn Lys Glu Val Lys Ser Ala Phe Lys Lys Thr Val Gly 290 295 300	912
aag gca aag gcc tct ata gga ttc ata ttt taa Lys Ala Lys Ala Ser Ile Gly Phe Ile Phe 305 310	945
<210> 496	
<211> 314	
<212> PRT	

<213> Homo Sapiens

<400> 496

Met Glu Asn Asn Thr Glu Val Thr Glu Phe Ile Leu Val Gly Leu Thr
 1 5 10 15

Asp Asp Pro Glu Leu Gln Ile Pro Leu Phe Ile Val Phe Leu Phe Ile
 20 25 30

Tyr Leu Ile Thr Leu Val Gly Asn Leu Gly Met Ile Glu Leu Ile Leu
 35 40 45

Leu Asp Ser Cys Leu His Thr Pro Met Tyr Phe Phe Leu Ser Asn Leu
 50 55 60

Ser Leu Val Asp Phe Gly Tyr Ser Ser Ala Val Thr Pro Lys Val Met
 65 70 75 80

Val Gly Phe Leu Thr Gly Asp Lys Phe Ile Leu Tyr Asn Ala Cys Ala
 85 90 95

Thr Gln Phe Phe Phe Val Ala Phe Ile Thr Ala Glu Ser Phe Leu
 100 105 110

Leu Ala Ser Met Ala Tyr Asp Arg Tyr Ala Ala Leu Cys Lys Pro Leu
 115 120 125

His Tyr Thr Thr Thr Met Thr Thr Asn Val Cys Ala Cys Leu Ala Ile
 130 135 140

Gly Ser Tyr Ile Cys Gly Phe Leu Asn Ala Ser Ile His Thr Gly Asn
 145 150 155 160

Thr Phe Arg Leu Ser Phe Cys Arg Ser Asn Val Val Glu His Phe Phe
 165 170 175

Cys Asp Ala Pro Pro Leu Leu Thr Leu Ser Cys Ser Asp Asn Tyr Ile
 180 185 190

Ser Glu Met Val Ile Phe Phe Val Val Gly Phe Asn Asp Leu Phe Ser
 195 200 205

Ile Leu Val Ile Leu Ile Ser Tyr Leu Phe Ile Phe Ile Thr Ile Met
 210 215 220

Lys Met Arg Ser Pro Glu Gly Arg Gln Lys Ala Phe Ser Thr Cys Ala
 225 230 235 240

Ser His Leu Thr Ala Val Ser Ile Phe Tyr Gly Thr Gly Ile Phe Met
245 250 255

Tyr Leu Arg Pro Asn Ser Ser His Phe Met Gly Thr Asp Lys Met Ala
260 265 270

Ser Val Phe Tyr Ala Ile Val Ile Pro Met Leu Asn Pro Leu Val Tyr
275 280 285

Ser Leu Arg Asn Lys Glu Val Lys Ser Ala Phe Lys Lys Thr Val Gly
290 295 300

Lys Ala Lys Ala Ser Ile Gly Phe Ile Phe
305 310

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agt gtc cca gaa cta cag atc ccc ctc ttt atc ttg ttc acc ttc atc 96
Ser Val Pro Glu Leu Gln Ile Pro Leu Phe Ile Leu Phe Thr Phe Ile
20 25 30

tac ctc ctc act ctg tgt ggg aac ctg ggg atg atg ttg ctg atc ctg 144
Tyr Leu Leu Thr Leu Cys Gly Asn Leu Gly Met Met Leu Leu Ile Leu
35 40 45

atg gac tct tgt ctc cac acc ccc atg tac ttt ttc ctc agt aac ctg 192
Met Asp Ser Cys Leu His Thr Pro Met Tyr Phe Phe Leu Ser Asn Leu
50 55 60

tct ctg gtg gac ttt gga tac tcc tca gct gtc act ccc aag gtc atg 240
Ser Leu Val Asp Phe Gly Tyr Ser Ser Ala Val Thr Pro Lys Val Met
65 70 75 80

gct ggg ttc ctt aga gga gac aag gtc atc tcc tac aat gca tgt gct 288
Ala Gly Phe Leu Arg Gly Asp Lys Val Ile Ser Tyr Asn Ala Cys Ala
85 90 95

gtt cag atg ttc ttc ttt gta gcc ttg gcc acg gtg gaa aat tac ttg 336
Val Gln Met Phe Phe Phe Val Ala Leu Ala Thr Val Glu Asn Tyr Leu
100 105 110

ttg gcc tca atg gcc tat gac cgc tat gca gca gtg tgc aaa ccc cta	384
Leu Ala Ser Met Ala Tyr Asp Arg Tyr Ala Ala Val Cys Lys Pro Leu	
115 120 125	
cac tac acc acc acc atg acg gcc agt gta ggt gcc tgt ctg gcc cta	432
His Tyr Thr Thr Thr Met Thr Ala Ser Val Gly Ala Cys Leu Ala Leu	
130 135 140	
ggc tca tat gtc tgt ggc ttc cta aat gcc tca ttc cac att ggg ggc	480
Gly Ser Tyr Val Cys Gly Phe Leu Asn Ala Ser Phe His Ile Gly Gly	
145 150 155 160	
ata ttc agt ctc tct ttc tgt aaa tcc aat ctg gta cat cac ttt ttc	528
Ile Phe Ser Leu Ser Phe Cys Lys Ser Asn Leu Val His His Phe Phe	
165 170 175	
tgt gat gtt cca gca gtc atg gct ctg tct tgc tct gat aaa cac act	576
Cys Asp Val Pro Ala Val Met Ala Leu Ser Cys Ser Asp Lys His Thr	
180 185 190	
agt gag gtg att ctg gtt ttt atg tca agc ttt aat atc ttt ttt gtt	624
Ser Glu Val Ile Leu Val Phe Met Ser Ser Phe Asn Ile Phe Phe Val	
195 200 205	
ctt cta gtt atc ttt atc tcc tac ttg ttc ata ttc atc acc atc ttg	672
Leu Leu Val Ile Phe Ile Ser Tyr Leu Phe Ile Phe Ile Thr Ile Leu	
210 215 220	
aag atg cat tca gct aag gga cac caa aaa gca ttg tcc acc tgt gcc	720
Lys Met His Ser Ala Lys Gly His Gln Lys Ala Leu Ser Thr Cys Ala	
225 230 235 240	
tct cac ttc act gca gtc tcc gtc ttc tat ggg aca gta atc ttc atc	768
Ser His Phe Thr Ala Val Ser Val Phe Tyr Gly Thr Val Ile Phe Ile	
245 250 255	
tac ttg cag ccc agc tcc agc cac tcc atg gac aca gac aaa atg gca	816
Tyr Leu Gln Pro Ser Ser Ser His Ser Met Asp Thr Asp Lys Met Ala	
260 265 270	
tct gtg ttc tat gct atg atc atc ccc atg ctg aac cct gtg gtc tac	864
Ser Val Phe Tyr Ala Met Ile Ile Pro Met Leu Asn Pro Val Val Tyr	
275 280 285	
agc ctg agg aac aga gaa gtc cag aat gca ttc aag aaa gtg ttg aga	912
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Tyr Leu Gln Pro Ser Ser Ser His Ser Met Asp Thr Asp Lys Met Ala
260 265 270

Ser Val Phe Tyr Ala Met Ile Ile Pro Met Leu Asn Pro Val Val Tyr
275 280 285

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290 295 300

Arg Gln Lys Phe Leu
305

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aat gac tca gaa ctg cag gtt ccc ctc ttt ata acg ttc ccc ttc atc 96
Asn Asp Ser Glu Leu Gln Val Pro Leu Phe Ile Thr Phe Pro Phe Ile
20 25 30

tat att atc act ctg gtt gga aac ctg gga att att gta ttg ata ttc 144
Tyr Ile Ile Thr Leu Val Gly Asn Leu Gly Ile Ile Val Leu Ile Phe
35 40 45

tgg gat tcc tgt ctc cac aat ccc atg tac ttt ttt ctc agt aac ttg 192
Trp Asp Ser Cys Leu His Asn Pro Met Tyr Phe Phe Leu Ser Asn Leu
50 55 60

tct cta gtg gac ttt tgc tac tct tca gct gtc act ccc atc gtc atg 240
Ser Leu Val Asp Phe Cys Tyr Ser Ser Ala Val Thr Pro Ile Val Met
65 70 75 80

gct gga ttc ctt ata gaa gac aag gtc atc tct tac aat gca tgt gct 288
Ala Gly Phe Leu Ile Glu Asp Lys Val Ile Ser Tyr Asn Ala Cys Ala
85 90 95

gct caa atg tat atc ttt gta gct ttt gcc act gtg gaa aat tac ctc 336
Ala Gln Met Tyr Ile Phe Val Ala Phe Ala Thr Val Glu Asn Tyr Leu
100 105 110

ttg gcc tca atg gcc tat gac cgc tat gca gca gtg tgc aaa ccc cta 384
Leu Ala Ser Met Ala Tyr Asp Arg Tyr Ala Ala Val Cys Lys Pro Leu
115 120 125

cat tac acc aca acc atg aca aca act gtg tgt gct cgt ctg gcc ata 432
 His Tyr Thr Thr Thr Met Thr Thr Val Cys Ala Arg Leu Ala Ile
 130 135 140

ggc tcc tac ctc tgt ggt ttc ctg aat gcc tcc atc cac act ggg gac 480
 Gly Ser Tyr Leu Cys Gly Phe Leu Asn Ala Ser Ile His Thr Gly Asp
 145 150 155 160

aca ttt agt ctc tct ttc tgt aag tcc aat gaa gtc cat cac ttt ttc 528
 Thr Phe Ser Leu Ser Phe Cys Lys Ser Asn Glu Val His His Phe Phe
 165 170 175

tgt gat att cca gca gtc atg gtt ctc tct tgc tct gat aga cat att 576
 Cys Asp Ile Pro Ala Val Met Val Leu Ser Cys Ser Asp Arg His Ile
 180 185 190

agc gag ctt gtt ctt att tat gtt gtg agc ttc aat atc ttt ata gct 624
 Ser Glu Leu Val Leu Ile Tyr Val Val Ser Phe Asn Ile Phe Ile Ala
 195 200 205

ctc ctg gtt atc ttg ata tcc tac aca ttc att ttt atc acc atc cta 672
 Leu Leu Val Ile Leu Ile Ser Tyr Thr Phe Ile Phe Ile Thr Ile Leu
 210 215 220

aag atg cac tca gct tca gta tac cag aag cct ttg tcc acc tgt gcc 720
 Lys Met His Ser Ala Ser Val Tyr Gln Lys Pro Leu Ser Thr Cys Ala
 225 230 235 240

tct cat ttc att gca gtc ggc atc ttc tat ggg act att atc ttc atg 768
 Ser His Phe Ile Ala Val Gly Ile Phe Tyr Gly Thr Ile Ile Phe Met
 245 250 255

tac tta caa ccc agc tcc agt cac tcc atg gac aca gac aaa atg gca 816
 Tyr Leu Gln Pro Ser Ser Ser His Ser Met Asp Thr Asp Lys Met Ala
 260 265 270

cct gtg ttc tat aca atg gtc atc ccc atg ctg aac cct ctg gtc tat 864
 Pro Val Phe Tyr Thr Met Val Ile Pro Met Leu Asn Pro Leu Val Tyr
 275 280 285

agt ctg agg aac aag gaa gtg aag agt gca ttc aag aaa gtt gtt gag 912
 Ser Leu Arg Asn Lys Glu Val Lys Ser Ala Phe Lys Lys Val Val Glu
 290 295 300

aag gca aaa ttg tct gta gga tgg tca gtt taa 945
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 305 310

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Tyr Ile Ile Thr Leu Val Gly Asn Leu Gly Ile Ile Val Leu Ile Phe 35 40 45		
Trp Asp Ser Cys Leu His Asn Pro Met Tyr Phe Phe Leu Ser Asn Leu 50 55 60		
Ser Leu Val Asp Phe Cys Tyr Ser Ser Ala Val Thr Pro Ile Val Met 65 70 75 80		
Ala Gly Phe Leu Ile Glu Asp Lys Val Ile Ser Tyr Asn Ala Cys Ala 85 90 95		
Ala Gln Met Tyr Ile Phe Val Ala Phe Ala Thr Val Glu Asn Tyr Leu 100 105 110		
Leu Ala Ser Met Ala Tyr Asp Arg Tyr Ala Ala Val Cys Lys Pro Leu 115 120 125		
His Tyr Thr Thr Thr Met Thr Thr Thr Val Cys Ala Arg Leu Ala Ile 130 135 140		
Gly Ser Tyr Leu Cys Gly Phe Leu Asn Ala Ser Ile His Thr Gly Asp 145 150 155 160		
Thr Phe Ser Leu Ser Phe Cys Lys Ser Asn Glu Val His His Phe Phe 165 170 175		
Cys Asp Ile Pro Ala Val Met Val Leu Ser Cys Ser Asp Arg His Ile 180 185 190		
Ser Glu Leu Val Leu Ile Tyr Val Val Ser Phe Asn Ile Phe Ile Ala 195 200 205		
Leu Leu Val Ile Leu Ile Ser Tyr Thr Phe Ile Phe Ile Thr Ile Leu 210 215 220		
Lys Met His Ser Ala Ser Val Tyr Gln Lys Pro Leu Ser Thr Cys Ala 225 230 235 240		
Ser His Phe Ile Ala Val Gly Ile Phe Tyr Gly Thr Ile Ile Phe Met 245 250 255		
Tyr Leu Gln Pro Ser Ser Ser His Ser Met Asp Thr Asp Lys Met Ala 260 265 270		

Pro Val Phe Tyr Thr Met Val Ile Pro Met Leu Asn Pro Leu Val Tyr
 275 280 285

Ser Leu Arg Asn Lys Glu Val Lys Ser Ala Phe Lys Lys Val Val Glu
 290 295 300

Lys Ala Lys Leu Ser Val Gly Trp Ser Val
 305 310

<210> 501
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aat caa cct gaa ctc caa gtg atg ata ttc atc ttt ctg ttc ctc acc 96
 Asn Gln Pro Glu Leu Gln Val Met Ile Phe Ile Phe Leu Phe Leu Thr
 20 25 30

tac atg cta agt atc cta gga aat ctg act att atc acc ctc acc tta 144
 Tyr Met Leu Ser Ile Leu Gly Asn Leu Thr Ile Ile Thr Leu Thr Leu
 35 40 45

cta gac ccc cac ctc cag acc ccc atg tat ttc ttc ctc cgg aat ttc 192
 Leu Asp Pro His Leu Gln Thr Pro Met Tyr Phe Phe Leu Arg Asn Phe
 50 55 60

tcc ttc tta gaa att tcc ttc aca tcc att ttt att ccc aga ttt ctg 240
 Ser Phe Leu Glu Ile Ser Phe Thr Ser Ile Phe Ile Pro Arg Phe Leu
 65 70 75 80

acc agc atg aca aca gga aat aaa gtt atc agc ttt gct ggc tgc ttg 288
 Thr Ser Met Thr Thr Gly Asn Lys Val Ile Ser Phe Ala Gly Cys Leu
 85 90 95

act cag tat ttt ttt gct ata ttt ctt gga gct acc gag ttt tac ctc 336
 Thr Gln Tyr Phe Phe Ala Ile Phe Leu Gly Ala Thr Glu Phe Tyr Leu
 100 105 110

ctg gcc tcc atg tct tat gat cgt tat gtg gcc atc tgc aaa ccc ttg 384
 Leu Ala Ser Met Ser Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu
 115 120 125

cat tac ctg act att atg agc agc aga gtc tgc ata caa cta gtg ttc 432
 His Tyr Leu Thr Ile Met Ser Ser Arg Val Cys Ile Gln Leu Val Phe
 130 135 140

tgc tcc tgg ttg ggg gga ttc cta gca atc tta cca cca atc atc ctg 480
 Cys Ser Trp Leu Gly Gly Phe Leu Ala Ile Leu Pro Pro Ile Ile Leu
 145 150 155 160

atg acc cag gta gat ttc tgt gtc tcc aac att ctg aat cac tat tac 528
 Met Thr Gln Val Asp Phe Cys Val Ser Asn Ile Leu Asn His Tyr Tyr
 165 170 175

tgt gac tat ggg cct ctc gtg gag ctt gcc tgc tca gac aca agc ctc 576
 Cys Asp Tyr Gly Pro Leu Val Glu Leu Ala Cys Ser Asp Thr Ser Leu
 180 185 190

tta gaa ctg atg gtc atc ctc ttg gcc gtt gtg act ctc atg gtt act 624
 Leu Glu Leu Met Val Ile Leu Leu Ala Val Val Thr Leu Met Val Thr
 195 200 205

ctg gtg ctg gtg aca ctt tct tac aca tac att atc agg act att ctg 672
 Leu Val Leu Val Thr Leu Ser Tyr Thr Tyr Ile Ile Arg Thr Ile Leu
 210 215 220

agg atc cct tct gcc cag caa agg aca aag gcc ttt tcc act tgt tcc 720
 Arg Ile Pro Ser Ala Gln Gln Arg Thr Lys Ala Phe Ser Thr Cys Ser
 225 230 235 240

tcc cac atg att gtc atc tcc ctc tct tat gcc agc tgc atg ttt atg 768
 Ser His Met Ile Val Ile Ser Leu Ser Tyr Gly Ser Cys Met Phe Met
 245 250 255

tac att aat cct tct gca aaa gaa gga ggt gct ttc aac aaa gga ata 816
 Tyr Ile Asn Pro Ser Ala Lys Glu Gly Gly Ala Phe Asn Lys Gly Ile
 260 265 270

gct gta ctc att act tcg gtt act ccc tta ctg aat ccc ttc ata tat 864
 Ala Val Leu Ile Thr Ser Val Thr Pro Leu Leu Asn Pro Phe Ile Tyr
 275 280 285

act tta aga aat cag caa gtg aaa caa gct ttc aag gac tca gtc aaa 912
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Tyr Met Leu Ser Ile Leu Gly Asn Leu Thr Ile Ile Thr Leu Thr Leu

35

40

45

Leu Asp Pro His Leu Gln Thr Pro Met Tyr Phe Phe Leu Arg Asn Phe
 50 55 60

Ser Phe Leu Glu Ile Ser Phe Thr Ser Ile Phe Ile Pro Arg Phe Leu
 65 70 75 80

Thr Ser Met Thr Thr Gly Asn Lys Val Ile Ser Phe Ala Gly Cys Leu
 85 90 95

Thr Gln Tyr Phe Phe Ala Ile Phe Leu Gly Ala Thr Glu Phe Tyr Leu
 100 105 110

Leu Ala Ser Met Ser Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu
 115 120 125

His Tyr Leu Thr Ile Met Ser Ser Arg Val Cys Ile Gln Leu Val Phe
 130 135 140

Cys Ser Trp Leu Gly Gly Phe Leu Ala Ile Leu Pro Pro Ile Ile Leu
 145 150 155 160

Met Thr Gln Val Asp Phe Cys Val Ser Asn Ile Leu Asn His Tyr Tyr
 165 170 175

Cys Asp Tyr Gly Pro Leu Val Glu Leu Ala Cys Ser Asp Thr Ser Leu
 180 185 190

Leu Glu Leu Met Val Ile Leu Leu Ala Val Val Thr Leu Met Val Thr
 195 200 205

Leu Val Leu Val Thr Leu Ser Tyr Thr Tyr Ile Ile Arg Thr Ile Leu
 210 215 220

Arg Ile Pro Ser Ala Gln Gln Arg Thr Lys Ala Phe Ser Thr Cys Ser
 225 230 235 240

Ser His Met Ile Val Ile Ser Leu Ser Tyr Gly Ser Cys Met Phe Met
 245 250 255

Tyr Ile Asn Pro Ser Ala Lys Glu Gly Gly Ala Phe Asn Lys Gly Ile
 260 265 270

Ala Val Leu Ile Thr Ser Val Thr Pro Leu Leu Asn Pro Phe Ile Tyr
 275 280 285

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 290 295 300

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gat gtc cct gaa ctc cag gtg gca gtt ttc acc ttt ctt ttc ctt gcg 96
 Asp Val Pro Glu Leu Gln Val Ala Val Phe Thr Phe Leu Phe Leu Ala
 20 25 30

tat tta ctc agc atc ctt gga aat ctg act atc ctc atc ctc acc ttg 144
 Tyr Leu Leu Ser Ile Leu Gly Asn Leu Thr Ile Leu Ile Leu Thr Leu
 35 40 45

ctg gac tcc cac ctt cag act ccc atg tat ttc ttt ctc cgg aac ttc 192
 Leu Asp Ser His Leu Gln Thr Pro Met Tyr Phe Phe Leu Arg Asn Phe
 50 55 60

tcc ttc ttg gaa att tcc ttc aca aac atc ttc att cca agg gtc ctg 240
 Ser Phe Leu Glu Ile Ser Phe Thr Asn Ile Phe Ile Pro Arg Val Leu
 65 70 75 80

att agc atc aca aca ggg aac aag agt atc agc ttt gct ggc tgc ttc 288
 Ile Ser Ile Thr Thr Gly Asn Lys Ser Ile Ser Phe Ala Gly Cys Phe
 85 90 95

act cag tat ttc ttt gcc atg ttc ctt ggg gct aca gag ttt tac ctt 336
 Thr Gln Tyr Phe Phe Ala Met Phe Leu Gly Ala Thr Glu Phe Tyr Leu
 100 105 110

ctg gct gcc atg tcc tat gac cgc tat gtg gcc atc tgc aaa cct ctg 384
 Leu Ala Ala Met Ser Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu
 115 120 125

cat tac acc acc atc atg agc agc aga atc tgc atc cag ctg att ttc 432
 His Tyr Thr Thr Ile Met Ser Ser Arg Ile Cys Ile Gln Leu Ile Phe
 130 135 140

tgc tct tgg ctg ggt ggg cta atg gct att ata cca aca atc acc ctg 480
 Cys Ser Trp Leu Gly Gly Leu Met Ala Ile Ile Pro Thr Ile Thr Leu
 145 150 155 160

atg agt cag cag gac ttt tgt gca tcc aac aga ctg aat cat tac ttc 528
 Met Ser Gln Gln Asp Phe Cys Ala Ser Asn Arg Leu Asn His Tyr Phe
 165 170 175

tgt gac tat gag cct ctt ctg gaa ctc tca tgt tca gac aca agc ctc 576
 Cys Asp Tyr Glu Pro Leu Leu Glu Leu Ser Cys Ser Asp Thr Ser Leu
 180 185 190

ata gag aag gtt gtc ttt ctt gtg gca tct gtg acc ctg gtg gtc act 624
 Ile Glu Lys Val Val Phe Leu Val Ala Ser Val Thr Leu Val Val Thr
 195 200 205

ctg gtg cta gtg att ctc tcc tat gca ttc att atc aag act att ctg 672
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 210 215 220

aag ctc ccc tct gcc caa caa agg aca aaa gcc ttt tcc aca tgt tct 720
 Lys Leu Pro Ser Ala Gln Gln Arg Thr Lys Ala Phe Ser Thr Cys Ser
 225 230 235 240

tcc cac atg att gtc atc tcc ctc tct tac gga agc tgc atg ttt atg 768
 Ser His Met Ile Val Ile Ser Leu Ser Tyr Gly Ser Cys Met Phe Met
 245 250 255

tac att aat ccc tct gca aaa gaa ggg gat aca ttc aac aag gga gta 816
 Tyr Ile Asn Pro Ser Ala Lys Glu Gly Asp Thr Phe Asn Lys Gly Val
 260 265 270

gct cta ctc att act tca gtt gct cct ttg ttg aac ccc ttt att tac 864
 Ala Leu Leu Ile Thr Ser Val Ala Pro Leu Leu Asn Pro Phe Ile Tyr
 275 280 285

acc cta agg aac caa cag gta aaa caa ccc ttc aag gat atg gtc aaa 912
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 290 295 300

aag ctt ctg aat ctt taa 930
 Lys Leu Leu Asn Leu
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<210> 504
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Tyr Leu Leu Ser Ile Leu Gly Asn Leu Thr Ile Leu Ile Leu Thr Leu
 35 40 45

Leu Asp Ser His Leu Gln Thr Pro Met Tyr Phe Phe Leu Arg Asn Phe

50	55	60																	
Ser	Phe	Leu	Glu	Ile	Ser	Phe	Thr	Asn	Ile	Phe	Ile	Pro	Arg	Val	Leu				
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Ile	Ser	Ile	Thr	Thr	Gly	Asn	Lys	Ser	Ile	Ser	Phe	Ala	Gly	Cys	Phe				
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Thr	Gln	Tyr	Phe	Phe	Ala	Met	Phe	Leu	Gly	Ala	Thr	Glu	Phe	Tyr	Leu				
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Leu	Ala	Ala	Met	Ser	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Lys	Pro	Leu				
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His	Tyr	Thr	Thr	Ile	Met	Ser	Ser	Arg	Ile	Cys	Ile	Gln	Leu	Ile	Phe				
	130					135					140								
Cys	Ser	Trp	Leu	Gly	Gly	Leu	Met	Ala	Ile	Ile	Pro	Thr	Ile	Thr	Leu				
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Cys	Asp	Tyr	Glu	Pro	Leu	Leu	Glu	Leu	Ser	Cys	Ser	Asp	Thr	Ser	Leu				
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Ile	Glu	Lys	Val	Val	Phe	Leu	Val	Ala	Ser	Val	Thr	Leu	Val	Val	Thr				
		195					200					205							
Leu	Val	Leu	Val	Ile	Leu	Ser	Tyr	Ala	Phe	Ile	Ile	Lys	Thr	Ile	Leu				
	210					215					220								
Lys	Leu	Pro	Ser	Ala	Gln	Gln	Arg	Thr	Lys	Ala	Phe	Ser	Thr	Cys	Ser				
225					230					235					240				
Ser	His	Met	Ile	Val	Ile	Ser	Leu	Ser	Tyr	Gly	Ser	Cys	Met	Phe	Met				
				245					250					255					
Tyr	Ile	Asn	Pro	Ser	Ala	Lys	Glu	Gly	Asp	Thr	Phe	Asn	Lys	Gly	Val				
			260					265					270						
Ala	Leu	Leu	Ile	Thr	Ser	Val	Ala	Pro	Leu	Leu	Asn	Pro	Phe	Ile	Tyr				
		275					280					285							
Thr	Leu	Arg	Asn	Gln	Gln	Val	Lys	Gln	Pro	Phe	Lys	Asp	Met	Val	Lys				
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Lys Leu Leu Asn Leu
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<212> DNA
<213> Homo Sapiens

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cta tcc cag act cca gag gtc caa cta gtc cta ttt gtt ata ttt cta 96
Leu Ser Gln Thr Pro Glu Val Gln Leu Val Leu Phe Val Ile Phe Leu
20 25 30
tcc ttc tat ttg ttc atc cta cca gga aat atc ctt atc att tgc acc 144
Ser Phe Tyr Leu Phe Ile Leu Pro Gly Asn Ile Leu Ile Ile Cys Thr
35 40 45
atc agt cta gac cct cat ctg acc tct cct atg tat ttc ctg ttg gct 192
Ile Ser Leu Asp Pro His Leu Thr Ser Pro Met Tyr Phe Leu Leu Ala
50 55 60
aat ctg gcc ttc ctt gat att tgg tac tct tcc att aca gcc cct gaa 240
Asn Leu Ala Phe Leu Asp Ile Trp Tyr Ser Ser Ile Thr Ala Pro Glu
65 70 75 80
atg ctc ata gac ttc ttt gtg gag agg aag ata att tct ttt gat gga 288
Met Leu Ile Asp Phe Phe Val Glu Arg Lys Ile Ile Ser Phe Asp Gly
85 90 95
tgc att gca cag ctc ttc ttc tta cac ttt gct ggg gct tgc gag atg 336
Cys Ile Ala Gln Leu Phe Phe Leu His Phe Ala Gly Ala Ser Glu Met
100 105 110
ttc ttg ctc aca gtg atg gcc ttt gac ctc tac act gct atc tgc cga 384
Phe Leu Leu Thr Val Met Ala Phe Asp Leu Tyr Thr Ala Ile Cys Arg
115 120 125
ccc ctc cac tat gct acc atc atg aat caa cgt ctc tgc tgt atc ctg 432
Pro Leu His Tyr Ala Thr Ile Met Asn Gln Arg Leu Cys Cys Ile Leu
130 135 140
gtg gct ctc tcc tgg agg ggg ggc ttc att cat tct atc ata cag gtg 480
Val Ala Leu Ser Trp Arg Gly Gly Phe Ile His Ser Ile Ile Gln Val
145 150 155 160
gct ctc att gtt cga ctt cct ttc tgt ggg ccc aat gag tta gac agt 528
Ala Leu Ile Val Arg Leu Pro Phe Cys Gly Pro Asn Glu Leu Asp Ser
165 170 175

tac ttc tgt gac atc aca cag gtt gtc cgg att gcc tgt gcc aac acc 576
 Tyr Phe Cys Asp Ile Thr Gln Val Val Arg Ile Ala Cys Ala Asn Thr
 180 185 190

ttc cca gag gag tta gtg atg atc tgt agt agt ggt ctg atc tct gtg 624
 Phe Pro Glu Glu Leu Val Met Ile Cys Ser Ser Gly Leu Ile Ser Val
 195 200 205

gtg tgt ttg att gct ctg tta atg tcc tat gcc ttc ctt ctg gcc ttg 672
 Val Cys Leu Ile Ala Leu Leu Met Ser Tyr Ala Phe Leu Leu Ala Leu
 210 215 220

ttc aag aaa ctt tca ggc tca ggt gag aat acc aac agg gcc atg tcc 720
 Phe Lys Lys Leu Ser Gly Ser Gly Glu Asn Thr Asn Arg Ala Met Ser
 225 230 235 240

acc tgc tat tcc cac att acc att gtg gtg cta atg ttt ggg cca tcc 768
 Thr Cys Tyr Ser His Ile Thr Ile Val Val Leu Met Phe Gly Pro Ser
 245 250 255

atc tac att tat gct cgc cca ttt gac tgc ttt tcc cta gat aaa gtg 816
 Ile Tyr Ile Tyr Ala Arg Pro Phe Asp Ser Phe Ser Leu Asp Lys Val
 260 265 270

gtg tct gtg ttc aat act tta ata ttc cct tta cgt aat ccc att att 864
 Val Ser Val Phe Asn Thr Leu Ile Phe Pro Leu Arg Asn Pro Ile Ile
 275 280 285

tac aca ttg aga aac aag gaa gta aag gca gcc atg agg aag ttg gtc 912
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acc aaa tat att ttg tgt aaa gag aag tga 942
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<213> Homo Sapiens

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Ser Phe Tyr Leu Phe Ile Leu Pro Gly Asn Ile Leu Ile Ile Cys Thr
 35 40 45

Ile Ser Leu Asp Pro His Leu Thr Ser Pro Met Tyr Phe Leu Leu Ala
 50 55 60

Asn Leu Ala Phe Leu Asp Ile Trp Tyr Ser Ser Ile Thr Ala Pro Glu

65

70

75

80

Met Leu Ile Asp Phe Phe Val Glu Arg Lys Ile Ile Ser Phe Asp Gly
85 90 95

Cys Ile Ala Gln Leu Phe Phe Leu His Phe Ala Gly Ala Ser Glu Met
100 105 110

Phe Leu Leu Thr Val Met Ala Phe Asp Leu Tyr Thr Ala Ile Cys Arg
115 120 125

Pro Leu His Tyr Ala Thr Ile Met Asn Gln Arg Leu Cys Cys Ile Leu
130 135 140

Val Ala Leu Ser Trp Arg Gly Gly Phe Ile His Ser Ile Ile Gln Val
145 150 155 160

Ala Leu Ile Val Arg Leu Pro Phe Cys Gly Pro Asn Glu Leu Asp Ser
165 170 175

Tyr Phe Cys Asp Ile Thr Gln Val Val Arg Ile Ala Cys Ala Asn Thr
180 185 190

Phe Pro Glu Glu Leu Val Met Ile Cys Ser Ser Gly Leu Ile Ser Val
195 200 205

Val Cys Leu Ile Ala Leu Leu Met Ser Tyr Ala Phe Leu Leu Ala Leu
210 215 220

Phe Lys Lys Leu Ser Gly Ser Gly Glu Asn Thr Asn Arg Ala Met Ser
225 230 235 240

Thr Cys Tyr Ser His Ile Thr Ile Val Val Leu Met Phe Gly Pro Ser
245 250 255

Ile Tyr Ile Tyr Ala Arg Pro Phe Asp Ser Phe Ser Leu Asp Lys Val
260 265 270

Val Ser Val Phe Asn Thr Leu Ile Phe Pro Leu Arg Asn Pro Ile Ile
275 280 285

Tyr Thr Leu Arg Asn Lys Glu Val Lys Ala Ala Met Arg Lys Leu Val
290 295 300

Thr Lys Tyr Ile Leu Cys Lys Glu Lys
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 1 5 10 15

ctg act cag tct caa gat att cag ctc ttg gtc ttt gtg ctg atc tta 96
 Leu Thr Gln Ser Gln Asp Ile Gln Leu Leu Val Phe Val Leu Ile Leu
 20 25 30

att ttc tac ctt atc atc ctc cct gga aat ttt ctc att att ttc acc 144
 Ile Phe Tyr Leu Ile Ile Leu Pro Gly Asn Phe Leu Ile Ile Phe Thr
 35 40 45

ata agg tca gac cct ggg ctc aca gcc ccc ctc tat tta ttt ctg ggc 192
 Ile Arg Ser Asp Pro Gly Leu Thr Ala Pro Leu Tyr Leu Phe Leu Gly
 50 55 60

aac ttg gcc ttc ctg gat gca tcc tac tcc ttc att gtg gct ccc agg 240
 Asn Leu Ala Phe Leu Asp Ala Ser Tyr Ser Phe Ile Val Ala Pro Arg
 65 70 75 80

atg ttg gtg gac ttc ctc tct gag aaa aag gta atc tcc tac aga ggc 288
 Met Leu Val Asp Phe Leu Ser Glu Lys Lys Val Ile Ser Tyr Arg Gly
 85 90 95

tgc atc act cag ctc ttt ttc ttg cac ttc ctt gga gga ggg gag gga 336
 Cys Ile Thr Gln Leu Phe Phe Leu His Phe Leu Gly Gly Gly Glu Gly
 100 105 110

tta ctc ctt gtt gtg atg gcc ttt gac cgc tac atc gcc atc tgc cgg 384
 Leu Leu Leu Val Val Met Ala Phe Asp Arg Tyr Ile Ala Ile Cys Arg
 115 120 125

cct ctg cac tgt tca act gtc atg aac cct aga gcc tgc tat gca atg 432
 Pro Leu His Cys Ser Thr Val Met Asn Pro Arg Ala Cys Tyr Ala Met
 130 135 140

atg ttg gct ctg tgg ctt ggg ggt ttt gtc cac tcc att atc cag gtg 480
 Met Leu Ala Leu Trp Leu Gly Gly Phe Val His Ser Ile Ile Gln Val
 145 150 155 160

gtc ctc atc ctc cgc ttg cct ttt tgt ggc cca aac cag ctg gac aac 528
 Val Leu Ile Leu Arg Leu Pro Phe Cys Gly Pro Asn Gln Leu Asp Asn
 165 170 175

ttc ttc tgt gat gtc cga cag gtc atc aag ctg gct tgc acc gac atg 576
 Phe Phe Cys Asp Val Arg Gln Val Ile Lys Leu Ala Cys Thr Asp Met
 180 185 190

ttt gtg gtg gag ctt cta atg gtc ttc aac agt ggc ctg atg aca ctc 624
 Phe Val Val Glu Leu Leu Met Val Phe Asn Ser Gly Leu Met Thr Leu
 195 200 205
 ctg tgc ttt ctg ggg ctt ctg gct tcc tat gca gtc atc ctc tgc cat 672
 Leu Cys Phe Leu Gly Leu Leu Ala Ser Tyr Ala Val Ile Leu Cys His
 210 215 220
 gtt cgt agg gca gct tct gaa ggg aag aac aag gcc atg tcc acg tgc 720
 Val Arg Arg Ala Ala Ser Glu Gly Lys Asn Lys Ala Met Ser Thr Cys
 225 230 235 240
 acc act cgt gtc att att ata ctt ctt atg ttt gga cct gct atc ttc 768
 Thr Thr Arg Val Ile Ile Ile Leu Leu Met Phe Gly Pro Ala Ile Phe
 245 250 255
 atc tac atg tgc cct ttc agg gcc tta cca gct gac aag atg gtt tct 816
 Ile Tyr Met Cys Pro Phe Arg Ala Leu Pro Ala Asp Lys Met Val Ser
 260 265 270
 ctc ttt cac aca gtg atc ttt cca ttg atg aat cct atg att tat acc 864
 Leu Phe His Thr Val Ile Phe Pro Leu Met Asn Pro Met Ile Tyr Thr
 275 280 285
 ctt cgc aac cag gaa gtg aaa act tcc atg aag agg tta ttg agt cga 912
 Leu Arg Asn Gln Glu Val Lys Thr Ser Met Lys Arg Leu Leu Ser Arg
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 305 310 315

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 20 25 30

Ile Phe Tyr Leu Ile Ile Leu Pro Gly Asn Phe Leu Ile Ile Phe Thr
 35 40 45

Ile Arg Ser Asp Pro Gly Leu Thr Ala Pro Leu Tyr Leu Phe Leu Gly
 50 55 60

Asn Leu Ala Phe Leu Asp Ala Ser Tyr Ser Phe Ile Val Ala Pro Arg
 65 70 75 80

Met Leu Val Asp Phe Leu Ser Glu Lys Lys Val Ile Ser Tyr Arg Gly

	85		90		95
Cys Ile Thr Gln Leu Phe Phe Leu His Phe Leu Gly Gly Gly Glu Gly	100		105		110
Leu Leu Leu Val Val Met Ala Phe Asp Arg Tyr Ile Ala Ile Cys Arg	115		120		125
Pro Leu His Cys Ser Thr Val Met Asn Pro Arg Ala Cys Tyr Ala Met	130		135		140
Met Leu Ala Leu Trp Leu Gly Gly Phe Val His Ser Ile Ile Gln Val	145		150		155
Val Leu Ile Leu Arg Leu Pro Phe Cys Gly Pro Asn Gln Leu Asp Asn	165		170		175
Phe Phe Cys Asp Val Arg Gln Val Ile Lys Leu Ala Cys Thr Asp Met	180		185		190
Phe Val Val Glu Leu Leu Met Val Phe Asn Ser Gly Leu Met Thr Leu	195		200		205
Leu Cys Phe Leu Gly Leu Leu Ala Ser Tyr Ala Val Ile Leu Cys His	210		215		220
Val Arg Arg Ala Ala Ser Glu Gly Lys Asn Lys Ala Met Ser Thr Cys	225		230		235
Thr Thr Arg Val Ile Ile Ile Leu Leu Met Phe Gly Pro Ala Ile Phe	245		250		255
Ile Tyr Met Cys Pro Phe Arg Ala Leu Pro Ala Asp Lys Met Val Ser	260		265		270
Leu Phe His Thr Val Ile Phe Pro Leu Met Asn Pro Met Ile Tyr Thr	275		280		285
Leu Arg Asn Gln Glu Val Lys Thr Ser Met Lys Arg Leu Leu Ser Arg	290		295		300
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<211> 918

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ctg tcc ttc ctt ggg gtc agc ctg gtt tat ggt ttg atc atc act ggg      96
Leu Ser Phe Leu Gly Val Ser Leu Val Tyr Gly Leu Ile Ile Thr Gly
          20          25          30

aac att ctc att gtg gtg tcc att cac aca gaa acc tgt cta tgc aca      144
Asn Ile Leu Ile Val Val Ser Ile His Thr Glu Thr Cys Leu Cys Thr
          35          40          45

tcc atg tac tat ttc ctg ggc agc ctt tct ggg att gaa ata tgc tac      192
Ser Met Tyr Tyr Phe Leu Gly Ser Leu Ser Gly Ile Glu Ile Cys Tyr
          50          55          60

act gca gtg gtg gtg ccc cat atc ctg gcc aac acc cta cag tca gag      240
Thr Ala Val Val Val Pro His Ile Leu Ala Asn Thr Leu Gln Ser Glu
          65          70          75          80

aag acc atc act ctc ctg ggc tgt gcc acc cag atg gct ttc ttc att      288
Lys Thr Ile Thr Leu Leu Gly Cys Ala Thr Gln Met Ala Phe Phe Ile
          85          90          95

gca ctg ggc agt gct gat tgc ttc ctc ttg gct gcc atg gcc tat gac      336
Ala Leu Gly Ser Ala Asp Cys Phe Leu Leu Ala Ala Met Ala Tyr Asp
          100          105          110

cgc tat gtg gcc att tgc cac ccg ttg cag tac cct ctc ctc atg aca      384
Arg Tyr Val Ala Ile Cys His Pro Leu Gln Tyr Pro Leu Leu Met Thr
          115          120          125

ttg act ctt tgt gtc cac ttg gtt gtg gca tca gtc atc agt ggt ctg      432
Leu Thr Leu Cys Val His Leu Val Val Ala Ser Val Ile Ser Gly Leu
          130          135          140

ttc ctg tcc tta caa ctg gtg gcc ttc atc ttc tct ctg cca ttc tgc      480
Phe Leu Ser Leu Gln Leu Val Ala Phe Ile Phe Ser Leu Pro Phe Cys
          145          150          155          160

cag gct cag ggc att gag cac ttc ttt tgt gat gtg cca cca gtc atg      528
Gln Ala Gln Gly Ile Glu His Phe Phe Cys Asp Val Pro Pro Val Met
          165          170          175

cat gtt gtt tgt gct cag agt cac att cat gag cag tca gtg ctg gtg      576
His Val Val Cys Ala Gln Ser His Ile His Glu Gln Ser Val Leu Val
          180          185          190

gca gcc ata cta gcc att gct gtg cct ttc ttc ctc atc acc acc tcc      624
Ala Ala Ile Leu Ala Ile Ala Val Pro Phe Phe Leu Ile Thr Thr Ser
          195          200          205

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tac acc ttc ata gtg gct gct ctg ctc aag atc cac tcg gct gct ggc 672
 Tyr Thr Phe Ile Val Ala Ala Leu Leu Lys Ile His Ser Ala Ala Gly
 210 215 220
 cgc cac egg gcc ttc tcc acc tgc tct tcc cac ctc act gtg gtg ctg 720
 Arg His Arg Ala Phe Ser Thr Cys Ser Ser His Leu Thr Val Val Leu
 225 230 235 240
 ctg cag tat ggc tgc tgt gcc ttc atg tac ctg tgc ccc agc tcc agc 768
 Leu Gln Tyr Gly Cys Cys Ala Phe Met Tyr Leu Cys Pro Ser Ser Ser
 245 250 255
 tac aac ccc aag caa gat egg ttc atc tca ctg gtg tac aca ttg gga 816
 Tyr Asn Pro Lys Gln Asp Arg Phe Ile Ser Leu Val Tyr Thr Leu Gly
 260 265 270
 acc cca ctg ctc aac cca ctt atc tat gcc ctg agg aac agt gag atg 864
 Thr Pro Leu Leu Asn Pro Leu Ile Tyr Ala Leu Arg Asn Ser Glu Met
 275 280 285
 aaa ggg gcc gta ggg aga gtt ctt acc agg aac tgc ctt tcc cag aac 912
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 agc tag 918
 Ser
 305

<210> 510
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 <213> Homo Sapiens

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Asn Ile Leu Ile Val Val Ser Ile His Thr Glu Thr Cys Leu Cys Thr
 35 40 45

Ser Met Tyr Tyr Phe Leu Gly Ser Leu Ser Gly Ile Glu Ile Cys Tyr
 50 55 60

Thr Ala Val Val Val Pro His Ile Leu Ala Asn Thr Leu Gln Ser Glu
 65 70 75 80

Lys Thr Ile Thr Leu Leu Gly Cys Ala Thr Gln Met Ala Phe Phe Ile
 85 90 95

Ala Leu Gly Ser Ala Asp Cys Phe Leu Leu Ala Ala Met Ala Tyr Asp

100

105

110

Arg Tyr Val Ala Ile Cys His Pro Leu Gln Tyr Pro Leu Leu Met Thr
 115 120 125

Leu Thr Leu Cys Val His Leu Val Val Ala Ser Val Ile Ser Gly Leu
 130 135 140

Phe Leu Ser Leu Gln Leu Val Ala Phe Ile Phe Ser Leu Pro Phe Cys
 145 150 155 160

Gln Ala Gln Gly Ile Glu His Phe Phe Cys Asp Val Pro Pro Val Met
 165 170 175

His Val Val Cys Ala Gln Ser His Ile His Glu Gln Ser Val Leu Val
 180 185 190

Ala Ala Ile Leu Ala Ile Ala Val Pro Phe Phe Leu Ile Thr Thr Ser
 195 200 205

Tyr Thr Phe Ile Val Ala Ala Leu Leu Lys Ile His Ser Ala Ala Gly
 210 215 220

Arg His Arg Ala Phe Ser Thr Cys Ser Ser His Leu Thr Val Val Leu
 225 230 235 240

Leu Gln Tyr Gly Cys Cys Ala Phe Met Tyr Leu Cys Pro Ser Ser Ser
 245 250 255

Tyr Asn Pro Lys Gln Asp Arg Phe Ile Ser Leu Val Tyr Thr Leu Gly
 260 265 270

Thr Pro Leu Leu Asn Pro Leu Ile Tyr Ala Leu Arg Asn Ser Glu Met
 275 280 285

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Ser
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cct ggc tct gaa gaa cta cat cat atc ctt ttt gct ata ttc ttc ttt 96
 Pro Gly Ser Glu Glu Leu His His Ile Leu Phe Ala Ile Phe Phe Phe
 20 25 30

ttc tac ttg gtg aca tta atg gga aac aca gtc atc atc atg att gtc 144
 Phe Tyr Leu Val Thr Leu Met Gly Asn Thr Val Ile Ile Met Ile Val
 35 40 45

tgt gtg gat aaa cgt ctg cag tcc ccc atg tat ttc ttc ctc ggc cac 192
 Cys Val Asp Lys Arg Leu Gln Ser Pro Met Tyr Phe Phe Leu Gly His
 50 55 60

ctc tct gcc ctg gag atc ctg gtc aca acc ata atc gtc ccc gtg atg 240
 Leu Ser Ala Leu Glu Ile Leu Val Thr Thr Ile Ile Val Pro Val Met
 65 70 75 80

ctt tgg gga ttg ctg ctc cct ggg atg cag aca ata tat ttg tct gcc 288
 Leu Trp Gly Leu Leu Leu Pro Gly Met Gln Thr Ile Tyr Leu Ser Ala
 85 90 95

tgt gtt gtc cag ctc ttc ttg tac ctt gct gtg ggg aca aca gag ttc 336
 Cys Val Val Gln Leu Phe Leu Tyr Leu Ala Val Gly Thr Thr Glu Phe
 100 105 110

gca tta ctt gga gca atg gct gtg gac cgt tat gtg gct gtc tgt aac 384
 Ala Leu Leu Gly Ala Met Ala Val Asp Arg Tyr Val Ala Val Cys Asn
 115 120 125

cct ctg agg tac aac atc att atg aac aga cac acc tgc aac ttt gtg 432
 Pro Leu Arg Tyr Asn Ile Ile Met Asn Arg His Thr Cys Asn Phe Val
 130 135 140

gtt ctt gtg tca tgg gtg ttt ggg ttt ctt ttt caa atc tgg ccg gtc 480
 Val Leu Val Ser Trp Val Phe Gly Phe Leu Phe Gln Ile Trp Pro Val
 145 150 155 160

tat gtc atg ttt cag ctt act tac tgc aaa tca aat gtg gtg aac aat 528
 Tyr Val Met Phe Gln Leu Thr Tyr Cys Lys Ser Asn Val Val Asn Asn
 165 170 175

ttt ttt tgt gac cga ggg caa ttg ctc aaa cta tcc tgc aat aat act 576
 Phe Phe Cys Asp Arg Gly Gln Leu Leu Lys Leu Ser Cys Asn Asn Thr
 180 185 190

ctt ttc acg gag ttt atc ctc ttc tta atg gct gtt ttt gtt ctc ttt 624
 Leu Phe Thr Glu Phe Ile Leu Phe Leu Met Ala Val Phe Val Leu Phe
 195 200 205

ggc tct ttg atc cct aca att gtc tcc aac gcc tac atc atc tcc acc 672
 Gly Ser Leu Ile Pro Thr Ile Val Ser Asn Ala Tyr Ile Ile Ser Thr
 210 215 220

att ctc aag atc ccg tca tcc tct ggc cgg agg aaa tcc ttc tcc act 720
 Ile Leu Lys Ile Pro Ser Ser Ser Gly Arg Arg Lys Ser Phe Ser Thr
 225 230 235 240

tgt gcc tcc cac ttc acc tgt gtt gtg att ggc tac ggc agc tgc ttg 768
 Cys Ala Ser His Phe Thr Cys Val Val Ile Gly Tyr Gly Ser Cys Leu
 245 250 255

ttt ctc tac gtg aaa ccc aag caa acg cag gca gct gat tac aat tgg 816
 Phe Leu Tyr Val Lys Pro Lys Gln Thr Gln Ala Ala Asp Tyr Asn Trp
 260 265 270

gta gtt tcc ctg atg gtt tca gta gta act cct ttc ctc aat cct ttc 864
 Val Val Ser Leu Met Val Ser Val Val Thr Pro Phe Leu Asn Pro Phe
 275 280 285

atc ttc acc ctc cgg aat gat aaa gtc ata gag gcc ctt cgg gat ggg 912
 Ile Phe Thr Leu Arg Asn Asp Lys Val Ile Glu Ala Leu Arg Asp Gly
 290 295 300

gtg aaa cgc tgc tgt caa cta ttc agg aat tag 945
 Val Lys Arg Cys Cys Gln Leu Phe Arg Asn
 305 310

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Phe Tyr Leu Val Thr Leu Met Gly Asn Thr Val Ile Ile Met Ile Val
 35 40 45

Cys Val Asp Lys Arg Leu Gln Ser Pro Met Tyr Phe Phe Leu Gly His
 50 55 60

Leu Ser Ala Leu Glu Ile Leu Val Thr Thr Ile Ile Val Pro Val Met
 65 70 75 80

Leu Trp Gly Leu Leu Leu Pro Gly Met Gln Thr Ile Tyr Leu Ser Ala
 85 90 95

Cys Val Val Gln Leu Phe Leu Tyr Leu Ala Val Gly Thr Thr Glu Phe
 100 105 110

Ala Leu Leu Gly Ala Met Ala Val Asp Arg Tyr Val Ala Val Cys Asn

115	120	125
Pro Leu Arg Tyr Asn Ile Ile Met Asn Arg His Thr Cys Asn Phe Val		
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Val Leu Val Ser Trp Val Phe Gly Phe Leu Phe Gln Ile Trp Pro Val		
145	150	155
Tyr Val Met Phe Gln Leu Thr Tyr Cys Lys Ser Asn Val Val Asn Asn		
	165	170
		175
Phe Phe Cys Asp Arg Gly Gln Leu Leu Lys Leu Ser Cys Asn Asn Thr		
	180	185
		190
Leu Phe Thr Glu Phe Ile Leu Phe Leu Met Ala Val Phe Val Leu Phe		
	195	200
		205
Gly Ser Leu Ile Pro Thr Ile Val Ser Asn Ala Tyr Ile Ile Ser Thr		
	210	215
		220
Ile Leu Lys Ile Pro Ser Ser Ser Gly Arg Arg Lys Ser Phe Ser Thr		
	225	230
		235
Cys Ala Ser His Phe Thr Cys Val Val Ile Gly Tyr Gly Ser Cys Leu		
	245	250
		255
Phe Leu Tyr Val Lys Pro Lys Gln Thr Gln Ala Ala Asp Tyr Asn Trp		
	260	265
		270
Val Val Ser Leu Met Val Ser Val Val Thr Pro Phe Leu Asn Pro Phe		
	275	280
		285
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 Ile Pro His Thr Glu Gly Leu Glu Met Thr Leu Phe Val Leu Phe Leu
 20 25 30
 ccc ttc tat gcc tgc act cta ctg gga aat gtg tct atc ctt gtt gct 144
 Pro Phe Tyr Ala Cys Thr Leu Leu Gly Asn Val Ser Ile Leu Val Ala
 35 40 45
 gtt atg tct tct gct cgc ctt cac aca cct atg tat ttc ttc ctg gga 192
 Val Met Ser Ser Ala Arg Leu His Thr Pro Met Tyr Phe Phe Leu Gly
 50 55 60
 aac ttg tct gtg ttt gac atg ggt ttc tcc tca gtg act tgt ccc aaa 240
 Asn Leu Ser Val Phe Asp Met Gly Phe Ser Ser Val Thr Cys Pro Lys
 65 70 75 80
 atg ctg ctc tac ctt atg ggg ctg agc cga ctc atc tcc tac aaa gac 288
 Met Leu Leu Tyr Leu Met Gly Leu Ser Arg Leu Ile Ser Tyr Lys Asp
 85 90 95
 tgt gtc tgc cag ctt ttc ttc ttc cat ttc ctc ggg agc att gag tgc 336
 Cys Val Cys Gln Leu Phe Phe Phe His Phe Leu Gly Ser Ile Glu Cys
 100 105 110
 ttc ttg ttt acg gtg atg gcc tat gac cgc ttc act gcc atc tgt tat 384
 Phe Leu Phe Thr Val Met Ala Tyr Asp Arg Phe Thr Ala Ile Cys Tyr
 115 120 125
 cct ctg cga tac aca gtc atc atg aac cca agg atc tgt gtg gcc ctg 432
 Pro Leu Arg Tyr Thr Val Ile Met Asn Pro Arg Ile Cys Val Ala Leu
 130 135 140
 gct gtg ggc aca tgg ctg tta ggg tgc att cat tcc agt atc ttg acc 480
 Ala Val Gly Thr Trp Leu Leu Gly Cys Ile His Ser Ser Ile Leu Thr
 145 150 155 160
 tcc ctc acc ttc acc ttg cca tac tgt ggt ccc aat gaa gtg gat cac 528
 Ser Leu Thr Phe Thr Leu Pro Tyr Cys Gly Pro Asn Glu Val Asp His
 165 170 175
 ttc ttc tgt gac att cca gca ctg ttg ccc ttg gcc tgt gct gac aca 576
 Phe Phe Cys Asp Ile Pro Ala Leu Leu Pro Leu Ala Cys Ala Asp Thr
 180 185 190
 tcc tta gcc cag agg gtg agc ttc acc aac gtt ggc ctc ata tct ctt 624
 Ser Leu Ala Gln Arg Val Ser Phe Thr Asn Val Gly Leu Ile Ser Leu
 195 200 205
 gtc tgc ttt ctg cta att ctt tta tcc tac act aga atc aca ata tct 672
 Val Cys Phe Leu Leu Ile Leu Leu Ser Tyr Thr Arg Ile Thr Ile Ser
 210 215 220
 atc tta agc att cgt aca act gag ggc cgt cgc cgt gcc ttc tcc acc 720
 Ile Leu Ser Ile Arg Thr Thr Glu Gly Arg Arg Arg Ala Phe Ser Thr
 225 230 235 240

tgc agt gct cac ctc att gcc atc ctc tgt gcc tat ggg ccc atc atc 768
 Cys Ser Ala His Leu Ile Ala Ile Leu Cys Ala Tyr Gly Pro Ile Ile
 245 250 255

act gtc tac ctg cag ccc aca ccc aac ccc atg ctg gga acc gtg gta 816
 Thr Val Tyr Leu Gln Pro Thr Pro Asn Pro Met Leu Gly Thr Val Val
 260 265 270

caa att ctc atg aat ctg gta gga cca atg ctg aac cct ttg atc tat 864
 Gln Ile Leu Met Asn Leu Val Gly Pro Met Leu Asn Pro Leu Ile Tyr
 275 280 285

acc ttg agg aat aag gaa gta aaa aca gcc ctg aaa aca ata ttg cac 912
 Thr Leu Arg Asn Lys Glu Val Lys Thr Ala Leu Lys Thr Ile Leu His
 290 295 300

agg aca ggc cat gtt cct gag agt tag 939
 Arg Thr Gly His Val Pro Glu Ser
 305 310

<210> 514
 <211> 312
 <212> PRT
 <213> Homo Sapiens

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 1 5 10 15

Ile Pro His Thr Glu Gly Leu Glu Met Thr Leu Phe Val Leu Phe Leu
 20 25 30

Pro Phe Tyr Ala Cys Thr Leu Leu Gly Asn Val Ser Ile Leu Val Ala
 35 40 45

Val Met Ser Ser Ala Arg Leu His Thr Pro Met Tyr Phe Phe Leu Gly
 50 55 60

Asn Leu Ser Val Phe Asp Met Gly Phe Ser Ser Val Thr Cys Pro Lys
 65 70 75 80

Met Leu Leu Tyr Leu Met Gly Leu Ser Arg Leu Ile Ser Tyr Lys Asp
 85 90 95

Cys Val Cys Gln Leu Phe Phe Phe His Phe Leu Gly Ser Ile Glu Cys
 100 105 110

Phe Leu Phe Thr Val Met Ala Tyr Asp Arg Phe Thr Ala Ile Cys Tyr
 115 120 125

Pro Leu Arg Tyr Thr Val Ile Met Asn Pro Arg Ile Cys Val Ala Leu

130

135

140

Ala Val Gly Thr Trp Leu Leu Gly Cys Ile His Ser Ser Ile Leu Thr
 145 150 155 160

Ser Leu Thr Phe Thr Leu Pro Tyr Cys Gly Pro Asn Glu Val Asp His
 165 170 175

Phe Phe Cys Asp Ile Pro Ala Leu Leu Pro Leu Ala Cys Ala Asp Thr
 180 185 190

Ser Leu Ala Gln Arg Val Ser Phe Thr Asn Val Gly Leu Ile Ser Leu
 195 200 205

Val Cys Phe Leu Leu Ile Leu Leu Ser Tyr Thr Arg Ile Thr Ile Ser
 210 215 220

Ile Leu Ser Ile Arg Thr Thr Glu Gly Arg Arg Arg Ala Phe Ser Thr
 225 230 235 240

Cys Ser Ala His Leu Ile Ala Ile Leu Cys Ala Tyr Gly Pro Ile Ile
 245 250 255

Thr Val Tyr Leu Gln Pro Thr Pro Asn Pro Met Leu Gly Thr Val Val
 260 265 270

Gln Ile Leu Met Asn Leu Val Gly Pro Met Leu Asn Pro Leu Ile Tyr
 275 280 285

Thr Leu Arg Asn Lys Glu Val Lys Thr Ala Leu Lys Thr Ile Leu His
 290 295 300

Arg Thr Gly His Val Pro Glu Ser
 305 310

<210> 515
 <211> 906
 <212> DNA
 <213> Homo Sapiens

<220>
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 <222> (1)..(903)
 <223>

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 Met Glu Phe Val Leu Leu Gly Phe Ser Asp Ile Pro Asn Leu His Trp

1	5	10	15	
atg ctt ttt agt ata ttt tta ctt atg tat ttg atg atc ctg atg tgc				96
Met Leu Phe Ser Ile Phe Leu Leu Met Tyr Leu Met Ile Leu Met Cys	20	25	30	
aat ggc atc ata ata cta cta ata aaa att cac ccc gct ctc cag act				144
Asn Gly Ile Ile Ile Leu Leu Ile Lys Ile His Pro Ala Leu Gln Thr	35	40	45	
ccc atg tat ttt ttt ctt agc aat ttt tcc ctt ttg gaa atc tgt tat				192
Pro Met Tyr Phe Phe Leu Ser Asn Phe Ser Leu Leu Glu Ile Cys Tyr	50	55	60	
gta aca atc att atc cca aga atg ctc atg gac att tgg act cag aaa				240
Val Thr Ile Ile Ile Pro Arg Met Leu Met Asp Ile Trp Thr Gln Lys	65	70	75	80
gga aat att tct ttg ttt gct tgt gct aca caa atg tgt ttt ttt ctt				288
Gly Asn Ile Ser Leu Phe Ala Cys Ala Thr Gln Met Cys Phe Phe Leu	85	90	95	
atg ctt gga ggc acg gag tgt ctc ctt ctg aca gtg atg gcc tat gac				336
Met Leu Gly Gly Thr Glu Cys Leu Leu Leu Thr Val Met Ala Tyr Asp	100	105	110	
cgc tac gtg gct att tgt aag cct ttg cag tat cct cta gtg atg aac				384
Arg Tyr Val Ala Ile Cys Lys Pro Leu Gln Tyr Pro Leu Val Met Asn	115	120	125	
cac aaa gtc tgc att cag ctg ata ata gct tcc tgg acc atc aca att				432
His Lys Val Cys Ile Gln Leu Ile Ile Ala Ser Trp Thr Ile Thr Ile	130	135	140	
cct gta gta att ggg gaa aca tgc caa att ttc ctt ttg ccc ttt tgc				480
Pro Val Val Ile Gly Glu Thr Cys Gln Ile Phe Leu Leu Pro Phe Cys	145	150	155	160
gga act aac aca att aat cat ttc ttt tgt gac atc ccg cca ata ctc				528
Gly Thr Asn Thr Ile Asn His Phe Phe Cys Asp Ile Pro Pro Ile Leu	165	170	175	
aag ctt gct tgt gga aac ata ttt gtg aat gag ata aca gtc cat gta				576
Lys Leu Ala Cys Gly Asn Ile Phe Val Asn Glu Ile Thr Val His Val	180	185	190	
gta gcg gtg gtg ttt atc acg gtg cca ttt ctg ttg att gtt gtc tct				624
Val Ala Val Val Phe Ile Thr Val Pro Phe Leu Leu Ile Val Val Ser	195	200	205	
tat ggc aaa att atc tcc aac att ttg aaa ttg tca tca gcc aga gga				672
Tyr Gly Lys Ile Ile Ser Asn Ile Leu Lys Leu Ser Ser Ala Arg Gly	210	215	220	
aag gct aaa gcc ttc tcc acc tgc tca tct cac cta ata gtt gta atc				720
Lys Ala Lys Ala Phe Ser Thr Cys Ser Ser His Leu Ile Val Val Ile	225	230	235	240
tta ttc ttt gga gca ggt act atc act tat tta cag ccc aaa cca cat				768
Leu Phe Phe Gly Ala Gly Thr Ile Thr Tyr Leu Gln Pro Lys Pro His	245	250	255	

cag ttt caa agg atg ggg aaa ctg att tct ctt ttc tac acc att ctg 816
 Gln Phe Gln Arg Met Gly Lys Leu Ile Ser Leu Phe Tyr Thr Ile Leu
 260 265 270

att cca act ttg aat cct att ata tat acc ctg agg aac aaa gat atc 864
 Ile Pro Thr Leu Asn Pro Ile Ile Tyr Thr Leu Arg Asn Lys Asp Ile
 275 280 285

atg gtg gca ttg aga aaa tta cta gct aag tta tta aca tga 906
 Met Val Ala Leu Arg Lys Leu Leu Ala Lys Leu Leu Thr
 290 295 300

<210> 516
 <211> 301
 <212> PRT
 <213> Homo Sapiens

<400> 516
 Met Glu Phe Val Leu Leu Gly Phe Ser Asp Ile Pro Asn Leu His Trp
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Asn Gly Ile Ile Ile Leu Leu Ile Lys Ile His Pro Ala Leu Gln Thr
 35 40 45

Pro Met Tyr Phe Phe Leu Ser Asn Phe Ser Leu Leu Glu Ile Cys Tyr
 50 55 60

Val Thr Ile Ile Ile Pro Arg Met Leu Met Asp Ile Trp Thr Gln Lys
 65 70 75 80

Gly Asn Ile Ser Leu Phe Ala Cys Ala Thr Gln Met Cys Phe Phe Leu
 85 90 95

Met Leu Gly Gly Thr Glu Cys Leu Leu Leu Thr Val Met Ala Tyr Asp
 100 105 110

Arg Tyr Val Ala Ile Cys Lys Pro Leu Gln Tyr Pro Leu Val Met Asn
 115 120 125

His Lys Val Cys Ile Gln Leu Ile Ile Ala Ser Trp Thr Ile Thr Ile
 130 135 140

Pro Val Val Ile Gly Glu Thr Cys Gln Ile Phe Leu Leu Pro Phe Cys
 145 150 155 160

Gly Thr Asn Thr Ile Asn His Phe Phe Cys Asp Ile Pro Pro Ile Leu

	165		170		175
Lys Leu Ala Cys Gly Asn Ile Phe Val Asn Glu Ile Thr Val His Val	180	185	190		
Val Ala Val Val Phe Ile Thr Val Pro Phe Leu Leu Ile Val Val Ser	195	200	205		
Tyr Gly Lys Ile Ile Ser Asn Ile Leu Lys Leu Ser Ser Ala Arg Gly	210	215	220		
Lys Ala Lys Ala Phe Ser Thr Cys Ser Ser His Leu Ile Val Val Ile	225	230	235	240	
Leu Phe Phe Gly Ala Gly Thr Ile Thr Tyr Leu Gln Pro Lys Pro His	245	250	255		
Gln Phe Gln Arg Met Gly Lys Leu Ile Ser Leu Phe Tyr Thr Ile Leu	260	265	270		
Ile Pro Thr Leu Asn Pro Ile Ile Tyr Thr Leu Arg Asn Lys Asp Ile	275	280	285		
Met Val Ala Leu Arg Lys Leu Leu Ala Lys Leu Leu Thr	290	295	300		

<210> 517
 <211> 939
 <212> DNA
 <213> Homo Sapiens

<220>
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 <222> (1)..(936)
 <223>

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 48
 Met Arg Gly Trp Asn His Thr Gly Ala Lys Glu Phe Leu Leu Val Gly
 1 5 10 15
 tta act gaa aat cct aat ttg cag atc cca ctc ttt ttg ctt gtc act 96
 Leu Thr Glu Asn Pro Asn Leu Gln Ile Pro Leu Phe Leu Leu Val Thr
 20 25 30
 ctg att tat ttc atc act ttg ttg gat aat ttg ggt ata att att tta 144
 Leu Ile Tyr Phe Ile Thr Leu Leu Asp Asn Leu Gly Ile Ile Ile Leu
 35 40 45
 atc tgg tta aat gcc caa ctt cat act cca atg tac ttc ttc ctt ggc 192
 Ile Trp Leu Asn Ala Gln Leu His Thr Pro Met Tyr Phe Phe Leu Gly

50	55	60	
aac ctc tcc ttt tgt gat atc tgc tac tct act gtc ttt gct cct aag Asn Leu Ser Phe Cys Asp Ile Cys Tyr Ser Thr Val Phe Ala Pro Lys 65 70 75 80			240
atg cta gtc aat ttc cta tca aaa cat aag tcc agt aca ttt tct ggc Met Leu Val Asn Phe Leu Ser Lys His Lys Ser Ser Thr Phe Ser Gly 85 90 95			288
tgt gtt cta cag agt ttc cct ttt gca gta tat gta acc aca aag gac Cys Val Leu Gln Ser Phe Pro Phe Ala Val Tyr Val Thr Thr Lys Asp 100 105 110			336
att ctc ctg tcc atg atg gct tat gac cat tac gtg gcc ata gct aat Ile Leu Leu Ser Met Met Ala Tyr Asp His Tyr Val Ala Ile Ala Asn 115 120 125			384
ccc ttg ttg tat aca gtc att atg gcc caa aaa gtt tgt att cag atg Pro Leu Leu Tyr Thr Val Ile Met Ala Gln Lys Val Cys Ile Gln Met 130 135 140			432
gtc ctt gct tct tac tta ggt ggg ctc att aat tcc ctg aca cac aca Val Leu Ala Ser Tyr Leu Gly Gly Leu Ile Asn Ser Leu Thr His Thr 145 150 155 160			480
ata ggt ttg ctc aaa tta gac ttc tgt ggt cct aat att gtg aat cat Ile Gly Leu Leu Lys Leu Asp Phe Cys Gly Pro Asn Ile Val Asn His 165 170 175			528
tat ttc tgt gat gtt cct cct ctt ctg agg ctt tct tgc tct gat gct Tyr Phe Cys Asp Val Pro Pro Leu Leu Arg Leu Ser Cys Ser Asp Ala 180 185 190			576
cat atc aat gaa atg ctg ccc ttg gtc ttc tct ggg ctc att gca atg His Ile Asn Glu Met Leu Pro Leu Val Phe Ser Gly Leu Ile Ala Met 195 200 205			624
ttc act ttc att gtc att atg gtg tct tat atc tgc atc atc att gcc Phe Thr Phe Ile Val Ile Met Val Ser Tyr Ile Cys Ile Ile Ile Ala 210 215 220			672
atc cag aga atc cat gca gct gag gga agg tac aaa gcc ttc tcc act Ile Gln Arg Ile His Ala Ala Glu Gly Arg Tyr Lys Ala Phe Ser Thr 225 230 235 240			720
tgt gtc tcc cac cta acc acg gtg acc tta ttc tat ggg tct gtt tct Cys Val Ser His Leu Thr Thr Val Thr Leu Phe Tyr Gly Ser Val Ser 245 250 255			768
ttt agt tat atc cag cca agt tct cag tat tcc ttg gaa cag gag aag Phe Ser Tyr Ile Gln Pro Ser Ser Gln Tyr Ser Leu Glu Gln Glu Lys 260 265 270			816
gtc ttg gct gtg ttt tat aca ctg gtg atc ccc atg cta aac cca ctt Val Leu Ala Val Phe Tyr Thr Leu Val Ile Pro Met Leu Asn Pro Leu 275 280 285			864
att tat agc ctg aga aat aag gat gta aaa gat gca gcc aaa agg ttg Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Asp Ala Ala Lys Arg Leu 290 295 300			912

ata tgg tgg ggg aaa aac ccc act tga
 Ile Trp Trp Gly Lys Asn Pro Thr
 305 310

939

<210> 518
 <211> 312
 <212> PRT
 <213> Homo Sapiens

<400> 518
 Met Arg Gly Trp Asn His Thr Gly Ala Lys Glu Phe Leu Leu Val Gly
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Leu Thr Glu Asn Pro Asn Leu Gln Ile Pro Leu Phe Leu Leu Val Thr
 20 25 30

Leu Ile Tyr Phe Ile Thr Leu Leu Asp Asn Leu Gly Ile Ile Ile Leu
 35 40 45

Ile Trp Leu Asn Ala Gln Leu His Thr Pro Met Tyr Phe Phe Leu Gly
 50 55 60

Asn Leu Ser Phe Cys Asp Ile Cys Tyr Ser Thr Val Phe Ala Pro Lys
 65 70 75 80

Met Leu Val Asn Phe Leu Ser Lys His Lys Ser Ser Thr Phe Ser Gly
 85 90 95

Cys Val Leu Gln Ser Phe Pro Phe Ala Val Tyr Val Thr Thr Lys Asp
 100 105 110

Ile Leu Leu Ser Met Met Ala Tyr Asp His Tyr Val Ala Ile Ala Asn
 115 120 125

Pro Leu Leu Tyr Thr Val Ile Met Ala Gln Lys Val Cys Ile Gln Met
 130 135 140

Val Leu Ala Ser Tyr Leu Gly Gly Leu Ile Asn Ser Leu Thr His Thr
 145 150 155 160

Ile Gly Leu Leu Lys Leu Asp Phe Cys Gly Pro Asn Ile Val Asn His
 165 170 175

Tyr Phe Cys Asp Val Pro Pro Leu Leu Arg Leu Ser Cys Ser Asp Ala
 180 185 190

His Ile Asn Glu Met Leu Pro Leu Val Phe Ser Gly Leu Ile Ala Met

195

200

205

Phe Thr Phe Ile Val Ile Met Val Ser Tyr Ile Cys Ile Ile Ile Ala
 210 215 220

Ile Gln Arg Ile His Ala Ala Glu Gly Arg Tyr Lys Ala Phe Ser Thr
 225 230 235 240

Cys Val Ser His Leu Thr Thr Val Thr Leu Phe Tyr Gly Ser Val Ser
 245 250 255

Phe Ser Tyr Ile Gln Pro Ser Ser Gln Tyr Ser Leu Glu Gln Glu Lys
 260 265 270

Val Leu Ala Val Phe Tyr Thr Leu Val Ile Pro Met Leu Asn Pro Leu
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Asp Ala Ala Lys Arg Leu
 290 295 300

Ile Trp Trp Gly Lys Asn Pro Thr
 305 310

<210> 519
 <211> 933
 <212> DNA
 <213> Homo Sapiens

<220>
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 <222> (1)..(930)
 <223>

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 48

Met Asp Trp Glu Asn Cys Ser Ser Leu Thr Asp Phe Phe Leu Leu Gly
 1 5 10 15

att acc aat aac cca gag atg aaa gtg acc cta ttt gct gta ttc ttg 96
 Ile Thr Asn Asn Pro Glu Met Lys Val Thr Leu Phe Ala Val Phe Leu
 20 25 30

gct gtt tat atc att aat ttc tca gca aat ctt gga atg ata gtt tta 144
 Ala Val Tyr Ile Ile Asn Phe Ser Ala Asn Leu Gly Met Ile Val Leu
 35 40 45

atc aga atg gat tac caa ctt cac aca cca atg tat ttc ttc ctc agt 192
 Ile Arg Met Asp Tyr Gln Leu His Thr Pro Met Tyr Phe Phe Leu Ser
 50 55 60

cat ctg tct ttc tgt gat ctc tgc tat tct act gca act ggg ccc aag 240
 His Leu Ser Phe Cys Asp Leu Cys Tyr Ser Thr Ala Thr Gly Pro Lys

65	70					75					80					
atg ctg gta gat cta ctt gcc aag aac aag tca ata ccc ttc tat ggc	Met Leu Val Asp Leu Leu Ala Lys Asn Lys Ser Ile Pro Phe Tyr Gly	85	90	95	288											
tgt gct ctg caa ttc ttg gtc ttc tgt atc ttt gca gat tct gag tgt	Cys Ala Leu Gln Phe Leu Val Phe Cys Ile Phe Ala Asp Ser Glu Cys	100	105	110	336											
cta ctg ctg tca gtg atg gcc ttt gat cgg tac aag gcc atc atc aac	Leu Leu Leu Ser Val Met Ala Phe Asp Arg Tyr Lys Ala Ile Ile Asn	115	120	125	384											
ccc ctg ctc tat aca gtc aac atg tct agc aga gtg tgc tat cta ctc	Pro Leu Leu Tyr Thr Val Asn Met Ser Ser Arg Val Cys Tyr Leu Leu	130	135	140	432											
ttg act ggg gtt tat ctg gtg gga ata gca gat gct ttg ata cat atg	Leu Thr Gly Val Tyr Leu Val Gly Ile Ala Asp Ala Leu Ile His Met	145	150	155	480											
aca ctg gcc ttc cgc cta tgc ttc tgt ggg tct aat gag att aat cat	Thr Leu Ala Phe Arg Leu Cys Phe Cys Gly Ser Asn Glu Ile Asn His	165	170	175	528											
ttc ttc tgt gat atc cct cct ctc tta tta ctc tct tgc tca gat aca	Phe Phe Cys Asp Ile Pro Pro Leu Leu Leu Ser Cys Ser Asp Thr	180	185	190	576											
cag gtc aat gag tta gtg tta ttc acc gtc ttt ggt ttt att gaa ctg	Gln Val Asn Glu Leu Val Leu Phe Thr Val Phe Gly Phe Ile Glu Leu	195	200	205	624											
agt acc att tca gga gtt ttc att tct tat tgt tat atc atc cta tca	Ser Thr Ile Ser Gly Val Phe Ile Ser Tyr Cys Tyr Ile Ile Leu Ser	210	215	220	672											
gtc ttg gag ata cac tct gct gag ggg agg ttc aaa gct ctc tct aca	Val Leu Glu Ile His Ser Ala Glu Gly Arg Phe Lys Ala Leu Ser Thr	225	230	235	720											
tgc act tcc cac tta tct gcg gtt gca att ttc cag gga act ctg ctc	Cys Thr Ser His Leu Ser Ala Val Ala Ile Phe Gln Gly Thr Leu Leu	245	250	255	768											
ttt atg tat ttc cgg cca agt tct tcc tat tct cta gat caa gat aaa	Phe Met Tyr Phe Arg Pro Ser Ser Ser Tyr Ser Leu Asp Gln Asp Lys	260	265	270	816											
atg acc tca ttg ttt tac acc ctt gtg gtt ccc atg ttg aac ccc ctg	Met Thr Ser Leu Phe Tyr Thr Leu Val Val Pro Met Leu Asn Pro Leu	275	280	285	864											
att tat agc ctg agg aac aag gat gtg aaa gag gcc ctg aaa aaa ctg	Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Glu Ala Leu Lys Lys Leu	290	295	300	912											
aaa aat gaa att tta ttt taa	Lys Asn Glu Ile Leu Phe	305	310	933												

<210> 520
 <211> 310
 <212> PRT
 <213> Homo Sapiens

<400> 520

Met Asp Trp Glu Asn Cys Ser Ser Leu Thr Asp Phe Phe Leu Leu Gly
 1 5 10 15

Ile Thr Asn Asn Pro Glu Met Lys Val Thr Leu Phe Ala Val Phe Leu
 20 25 30

Ala Val Tyr Ile Ile Asn Phe Ser Ala Asn Leu Gly Met Ile Val Leu
 35 40 45

Ile Arg Met Asp Tyr Gln Leu His Thr Pro Met Tyr Phe Phe Leu Ser
 50 55 60

His Leu Ser Phe Cys Asp Leu Cys Tyr Ser Thr Ala Thr Gly Pro Lys
 65 70 75 80

Met Leu Val Asp Leu Leu Ala Lys Asn Lys Ser Ile Pro Phe Tyr Gly
 85 90 95

Cys Ala Leu Gln Phe Leu Val Phe Cys Ile Phe Ala Asp Ser Glu Cys
 100 105 110

Leu Leu Leu Ser Val Met Ala Phe Asp Arg Tyr Lys Ala Ile Ile Asn
 115 120 125

Pro Leu Leu Tyr Thr Val Asn Met Ser Ser Arg Val Cys Tyr Leu Leu
 130 135 140

Leu Thr Gly Val Tyr Leu Val Gly Ile Ala Asp Ala Leu Ile His Met
 145 150 155 160

Thr Leu Ala Phe Arg Leu Cys Phe Cys Gly Ser Asn Glu Ile Asn His
 165 170 175

Phe Phe Cys Asp Ile Pro Pro Leu Leu Leu Ser Cys Ser Asp Thr
 180 185 190

Gln Val Asn Glu Leu Val Leu Phe Thr Val Phe Gly Phe Ile Glu Leu
 195 200 205

Ser Thr Ile Ser Gly Val Phe Ile Ser Tyr Cys Tyr Ile Ile Leu Ser

210	215	220
Val Leu Glu Ile His Ser Ala Glu Gly Arg Phe Lys Ala Leu Ser Thr		
225	230	235 240
Cys Thr Ser His Leu Ser Ala Val Ala Ile Phe Gln Gly Thr Leu Leu		
	245	250 255
Phe Met Tyr Phe Arg Pro Ser Ser Ser Tyr Ser Leu Asp Gln Asp Lys		
	260	265 270
Met Thr Ser Leu Phe Tyr Thr Leu Val Val Pro Met Leu Asn Pro Leu		
	275	280 285
Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Glu Ala Leu Lys Lys Leu		
	290	295 300
Lys Asn Glu Ile Leu Phe		
305	310	

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 <211> 981
 <212> DNA
 <213> Homo Sapiens

<220>
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 <222> (1)..(978)
 <223>

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aat ttt act gaa gtc acc atg ttt ata tta ata agc ttc aca gaa gaa 96
 Asn Phe Thr Glu Val Thr Met Phe Ile Leu Ile Ser Phe Thr Glu Glu
 20 25 30

ttt gat gtg caa gtc ttc cta ttt tta tta ttt tta gca atc tat cta 144
 Phe Asp Val Gln Val Phe Leu Phe Leu Leu Phe Leu Ala Ile Tyr Leu
 35 40 45

ttc act cta ata ggc aat tta ggg ctg gtt gta ccg atc att ggg gat 192
 Phe Thr Leu Ile Gly Asn Leu Gly Leu Val Val Pro Ile Ile Gly Asp
 50 55 60

ttc tgg ctt cac agc cca atg tac tat ttt ctt ggt gtt tta tca ttc 240
 Phe Trp Leu His Ser Pro Met Tyr Tyr Phe Leu Gly Val Leu Ser Phe
 65 70 75 80

ttg gat gtc tgc tat tct aca gtt gtc act cca aaa atg ttg gtc aat 288
 Leu Asp Val Cys Tyr Ser Thr Val Val Thr Pro Lys Met Leu Val Asn

85	90	95	
ttc ctg gca aaa aat aaa tct att tca ttt ctt gga tgt gca aca cag Phe Leu Ala Lys Asn Lys Ser Ile Ser Phe Leu Gly Cys Ala Thr Gln 100 105 110			336
atg ttt ctt gct tgt act ttt gga acc aca gaa tgc ttt ctc ttg gct Met Phe Leu Ala Cys Thr Phe Gly Thr Thr Glu Cys Phe Leu Leu Ala 115 120 125			384
gca atg gct tat gat cgc tat gta gcc atc tac aac cct ctc ctg tat Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Tyr Asn Pro Leu Leu Tyr 130 135 140			432
tca gtg agc atg tca ccc aga gtc tat gtg cca ctc atc act gct tcc Ser Val Ser Met Ser Pro Arg Val Tyr Val Pro Leu Ile Thr Ala Ser 145 150 155 160			480
tat gtt gct agc att tta cat gct act ata cat aca gtg gct aca ttt Tyr Val Ala Ser Ile Leu His Ala Thr Ile His Thr Val Ala Thr Phe 165 170 175			528
agc ctg tcc ttc tgt gga tcc aat gaa att agg cat gtc ttt tgt aat Ser Leu Ser Phe Cys Gly Ser Asn Glu Ile Arg His Val Phe Cys Asn 180 185 190			576
atg cct cct ctg ctt gct att tct tgt tct gac act cac gta atc cag Met Pro Pro Leu Leu Ala Ile Ser Cys Ser Asp Thr His Val Ile Gln 195 200 205			624
ctt cta ttc ttc tac ttt gtg ggc tct att gag ata gtc act atc ctg Leu Leu Phe Phe Tyr Phe Val Gly Ser Ile Glu Ile Val Thr Ile Leu 210 215 220			672
att gtc ctg atc tcc tat ggt ttt att ctg ttg gcc att ctg aag atg Ile Val Leu Ile Ser Tyr Gly Phe Ile Leu Leu Ala Ile Leu Lys Met 225 230 235 240			720
cag tct gct gaa ggg agg aga aaa gtc ttc tct aca tgt gga gct cac Gln Ser Ala Glu Gly Arg Arg Lys Val Phe Ser Thr Cys Gly Ala His 245 250 255			768
cta act gga gtg aca att tat cat ggg aca atc ctc ttc atg tat gtg Leu Thr Gly Val Thr Ile Tyr His Gly Thr Ile Leu Phe Met Tyr Val 260 265 270			816
aga cca agt tcc agc tac act tcg gac aat gac atg ata gtg tca ata Arg Pro Ser Ser Ser Tyr Thr Ser Asp Asn Asp Met Ile Val Ser Ile 275 280 285			864
ttt tat acc att gtg att ccc atg ctg aat ccc atc atc tac agt ttg Phe Tyr Thr Ile Val Ile Pro Met Leu Asn Pro Ile Ile Tyr Ser Leu 290 295 300			912
cgg aac aaa gat gta aag gag gca atc aaa aga ttg ctt gtg aga aat Arg Asn Lys Asp Val Lys Glu Ala Ile Lys Arg Leu Leu Val Arg Asn 305 310 315 320			960
tgg ttc ata aat aag tta tag Trp Phe Ile Asn Lys Leu 325			981

<210> 522
 <211> 326
 <212> PRT
 <213> Homo Sapiens

<400> 522
 Met Ser Gly Leu Pro Ser Asp Met Asp Leu Tyr Lys Leu Gln Leu Asn
 1 5 10 15

Asn Phe Thr Glu Val Thr Met Phe Ile Leu Ile Ser Phe Thr Glu Glu
 20 25 30

Phe Asp Val Gln Val Phe Leu Phe Leu Leu Phe Leu Ala Ile Tyr Leu
 35 40 45

Phe Thr Leu Ile Gly Asn Leu Gly Leu Val Val Pro Ile Ile Gly Asp
 50 55 60

Phe Trp Leu His Ser Pro Met Tyr Tyr Phe Leu Gly Val Leu Ser Phe
 65 70 75 80

Leu Asp Val Cys Tyr Ser Thr Val Val Thr Pro Lys Met Leu Val Asn
 85 90 95

Phe Leu Ala Lys Asn Lys Ser Ile Ser Phe Leu Gly Cys Ala Thr Gln
 100 105 110

Met Phe Leu Ala Cys Thr Phe Gly Thr Thr Glu Cys Phe Leu Leu Ala
 115 120 125

Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Tyr Asn Pro Leu Leu Tyr
 130 135 140

Ser Val Ser Met Ser Pro Arg Val Tyr Val Pro Leu Ile Thr Ala Ser
 145 150 155 160

Tyr Val Ala Ser Ile Leu His Ala Thr Ile His Thr Val Ala Thr Phe
 165 170 175

Ser Leu Ser Phe Cys Gly Ser Asn Glu Ile Arg His Val Phe Cys Asn
 180 185 190

Met Pro Pro Leu Leu Ala Ile Ser Cys Ser Asp Thr His Val Ile Gln
 195 200 205

Leu Leu Phe Phe Tyr Phe Val Gly Ser Ile Glu Ile Val Thr Ile Leu

210

215

220

Ile Val Leu Ile Ser Tyr Gly Phe Ile Leu Leu Ala Ile Leu Lys Met
 225 230 235 240

Gln Ser Ala Glu Gly Arg Arg Lys Val Phe Ser Thr Cys Gly Ala His
 245 250 255

Leu Thr Gly Val Thr Ile Tyr His Gly Thr Ile Leu Phe Met Tyr Val
 260 265 270

Arg Pro Ser Ser Ser Tyr Thr Ser Asp Asn Asp Met Ile Val Ser Ile
 275 280 285

Phe Tyr Thr Ile Val Ile Pro Met Leu Asn Pro Ile Ile Tyr Ser Leu
 290 295 300

Arg Asn Lys Asp Val Lys Glu Ala Ile Lys Arg Leu Leu Val Arg Asn
 305 310 315 320

Trp Phe Ile Asn Lys Leu
 325

<210> 523
 <211> 939
 <212> DNA
 <213> Homo Sapiens

<220>
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 48

Met Met Gly Arg Arg Asn Asn Thr Asn Val Ala Asp Phe Ile Leu Met
 1 5 10 15

gga ctg aca ctt tct gaa gag atc cag atg gct ctg ttt atg cta ttt 96
 Gly Leu Thr Leu Ser Glu Glu Ile Gln Met Ala Leu Phe Met Leu Phe
 20 25 30

ctc ctg ata tac cta att act atg ctg ggg aat gtg ggg atg ata ttg 144
 Leu Leu Ile Tyr Leu Ile Thr Met Leu Gly Asn Val Gly Met Ile Leu
 35 40 45

ata atc cgc ctg gac ctc cag ctt cac act ccc atg tat ttt ttc ctt 192
 Ile Ile Arg Leu Asp Leu Gln Met Leu His Thr Pro Met Tyr Phe Phe Leu
 50 55 60

act cac ctg tca ttt att gac ctc agt tac tca act gtc gtc aca cct 240
 Thr His Leu Ser Phe Ile Asp Leu Ser Tyr Ser Thr Val Val Thr Pro

65				70				75				80				
aaa acc tta gcg aac tta ctg act tcc aac tat att tcc ttt acg ggc	Lys Thr Leu Ala Asn Leu Leu Thr Ser Asn Tyr Ile Ser Phe Thr Gly	85							90					95	288	
tgc ttt gcc cag atg ttc ttt ttt gcc ttc ttg ggt act gct gaa tgt	Cys Phe Ala Gln Met Phe Phe Phe Ala Phe Leu Gly Thr Ala Glu Cys	100						105					110		336	
tac ctt ctc tcc tca atg gcc tat gat cgc tat gca gcg atc tgc agt	Tyr Leu Leu Ser Ser Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys Ser	115					120					125			384	
cct cta cac tac aca gtt att atg tcc aaa agg ctc tgc ctc gct ctc	Pro Leu His Tyr Thr Val Ile Met Ser Lys Arg Leu Cys Leu Ala Leu	130				135						140			432	
atc act ggg cct tat gtg att ggc ttt ata gac tcc ttt gtc aac gtg	Ile Thr Gly Pro Tyr Val Ile Gly Phe Ile Asp Ser Phe Val Asn Val	145				150					155				480	
gtt tcc atg agc aga ttg cat ttc tgc gac tca aac gta att cat cac	Val Ser Met Ser Arg Leu His Phe Cys Asp Ser Asn Val Ile His His	165						170						175	528	
ttt ttc tgt gac act tcc cca att tta gct ctg tcc tgc act gat aca	Phe Phe Cys Asp Thr Ser Pro Ile Leu Ala Leu Ser Cys Thr Asp Thr	180					185						190		576	
tac aac acc gaa atc ctg ata ttc att att gtt ggt tcc acc ctg atg	Tyr Asn Thr Glu Ile Leu Ile Phe Ile Ile Val Gly Ser Thr Leu Met	195					200						205		624	
gtg tcc ctt ttc aca ata tct gca tcc tat gtg ttc att ctc ttt acc	Val Ser Leu Phe Thr Ile Ser Ala Ser Tyr Val Phe Ile Leu Phe Thr	210				215						220			672	
atc ctg aaa att aat tcc act tca gga aag cag aaa gct ttc tct act	Ile Leu Lys Ile Asn Ser Thr Ser Gly Lys Gln Lys Ala Phe Ser Thr	225			230						235				720	
tgc gtc tct cat ctc ttg gga gtc acc atc ttt tat agc act ctg att	Cys Val Ser His Leu Leu Gly Val Thr Ile Phe Tyr Ser Thr Leu Ile	245						250						255	768	
ttt act tat tta aaa cca aga aag tct tat tcc ttg gga aga gat caa	Phe Thr Tyr Leu Lys Pro Arg Lys Ser Tyr Ser Leu Gly Arg Asp Gln	260					265						270		816	
gtg gct tct gtt ttt tat act att gtg att ccc atg ctg aat cca ctc	Val Ala Ser Val Phe Tyr Thr Ile Val Ile Pro Met Leu Asn Pro Leu	275					280					285			864	
att tat agt ctt aga aac aaa gag gtg aaa aat gct gtc atc aga gtc	Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Asn Ala Val Ile Arg Val	290				295					300				912	
atg cag aga aga cag gac tcc agg taa	Met Gln Arg Arg Gln Asp Ser Arg	305			310										939	

<210> 524
 <211> 312
 <212> PRT
 <213> Homo Sapiens

<400> 524

Met Met Gly Arg Arg Asn Asn Thr Asn Val Ala Asp Phe Ile Leu Met
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Gly Leu Thr Leu Ser Glu Glu Ile Gln Met Ala Leu Phe Met Leu Phe
 20 25 30

Leu Leu Ile Tyr Leu Ile Thr Met Leu Gly Asn Val Gly Met Ile Leu
 35 40 45

Ile Ile Arg Leu Asp Leu Gln Leu His Thr Pro Met Tyr Phe Phe Leu
 50 55 60

Thr His Leu Ser Phe Ile Asp Leu Ser Tyr Ser Thr Val Val Thr Pro
 65 70 75 80

Lys Thr Leu Ala Asn Leu Leu Thr Ser Asn Tyr Ile Ser Phe Thr Gly
 85 90 95

Cys Phe Ala Gln Met Phe Phe Phe Ala Phe Leu Gly Thr Ala Glu Cys
 100 105 110

Tyr Leu Leu Ser Ser Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys Ser
 115 120 125

Pro Leu His Tyr Thr Val Ile Met Ser Lys Arg Leu Cys Leu Ala Leu
 130 135 140

Ile Thr Gly Pro Tyr Val Ile Gly Phe Ile Asp Ser Phe Val Asn Val
 145 150 155 160

Val Ser Met Ser Arg Leu His Phe Cys Asp Ser Asn Val Ile His His
 165 170 175

Phe Phe Cys Asp Thr Ser Pro Ile Leu Ala Leu Ser Cys Thr Asp Thr
 180 185 190

Tyr Asn Thr Glu Ile Leu Ile Phe Ile Ile Val Gly Ser Thr Leu Met
 195 200 205

Val Ser Leu Phe Thr Ile Ser Ala Ser Tyr Val Phe Ile Leu Phe Thr

210 215 220

Ile Leu Lys Ile Asn Ser Thr Ser Gly Lys Gln Lys Ala Phe Ser Thr
 225 230 235 240

Cys Val Ser His Leu Leu Gly Val Thr Ile Phe Tyr Ser Thr Leu Ile
 245 250 255

Phe Thr Tyr Leu Lys Pro Arg Lys Ser Tyr Ser Leu Gly Arg Asp Gln
 260 265 270

Val Ala Ser Val Phe Tyr Thr Ile Val Ile Pro Met Leu Asn Pro Leu
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Asn Ala Val Ile Arg Val
 290 295 300

Met Gln Arg Arg Gln Asp Ser Arg
 305 310

<210> 525
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 <212> DNA
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<220>
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 <222> (1)..(936)
 <223>

<400> 525atg atg ggt aga agg aat gac aca aat gtg gct gac ttc atc ctt acg
 48
 Met Met Gly Arg Arg Asn Asp Thr Asn Val Ala Asp Phe Ile Leu Thr
 1 5 10 15

gga ctg tca gac tct gaa gag gtc cag atg gct ctg ttt atg cta ttt 96
 Gly Leu Ser Asp Ser Glu Glu Val Gln Met Ala Leu Phe Met Leu Phe
 20 25 30

ctc ctc ata tac cta att act atg ctg ggg aat gtg ggg atg cta ttg 144
 Leu Leu Ile Tyr Leu Ile Thr Met Leu Gly Asn Val Gly Met Leu Leu
 35 40 45

ata atc cgc ctg gac ctc cag ctt cac act ccc atg tat ttt ttc ctt 192
 Ile Ile Arg Leu Asp Leu Gln Leu His Thr Pro Met Tyr Phe Phe Leu
 50 55 60

act cac ctg tca ttt att gac ctc agt tac tca act gtc gtc aca cct 240
 Thr His Leu Ser Phe Ile Asp Leu Ser Tyr Ser Thr Val Val Thr Pro
 65 70 75 80

aaa acc tta gcg aac tta ctg act tcc aac tat att tcc ttc acg ggc 288
 Lys Thr Leu Ala Asn Leu Leu Thr Ser Asn Tyr Ile Ser Phe Thr Gly

85	90	95	
tgc ttt gcc cag atg ttc tgt ttt gtc ttc ttg ggt act gct gaa tgt Cys Phe Ala Gln Met Phe Cys Phe Val Phe Leu Gly Thr Ala Glu Cys 100 105 110			336
tat ctt ctc tcc tca atg gcc tat gat cgc tat gca gcg atc tgc agt Tyr Leu Leu Ser Ser Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys Ser 115 120 125			384
cct cta cac tac aca gtt att atg tcc aaa agg ctc tgc ctc gct ctc Pro Leu His Tyr Thr Val Ile Met Ser Lys Arg Leu Cys Leu Ala Leu 130 135 140			432
atc act ggg cct tat gtg att ggc ttt atg gac tcc ttt gtc aat gtg Ile Thr Gly Pro Tyr Val Ile Gly Phe Met Asp Ser Phe Val Asn Val 145 150 155 160			480
gtt tcc atg agc aga ttg cat ttc tgt gac tca aac ata att cat cac Val Ser Met Ser Arg Leu His Phe Cys Asp Ser Asn Ile Ile His His 165 170 175			528
ttt ttc tgt gac act tcc cca att tta gct ctg tcc tgc act gac aca Phe Phe Cys Asp Thr Ser Pro Ile Leu Ala Leu Ser Cys Thr Asp Thr 180 185 190			576
gac aac act gaa atg ctg ata ttc att atc gct ggt tcc acc ctg atg Asp Asn Thr Glu Met Leu Ile Phe Ile Ile Ala Gly Ser Thr Leu Met 195 200 205			624
gtg tcc ctt atc aca ata tct gca tcc tat gtg tcc att ctc tct acc Val Ser Leu Ile Thr Ile Ser Ala Ser Tyr Val Ser Ile Leu Ser Thr 210 215 220			672
atc ctg aaa att aat tcc act tca gga aag cag aaa gct ttc tct act Ile Leu Lys Ile Asn Ser Thr Ser Gly Lys Gln Lys Ala Phe Ser Thr 225 230 235 240			720
tgc gtc tct cat ctc ttg gga gtc acc atc ttc tat gga act atg att Cys Val Ser His Leu Leu Gly Val Thr Ile Phe Tyr Gly Thr Met Ile 245 250 255			768
ttt act tac tta aag cca aga aag tct tat tcc ttg gga aga gat caa Phe Thr Tyr Leu Lys Pro Arg Lys Ser Tyr Ser Leu Gly Arg Asp Gln 260 265 270			816
gtg gct cct gtg ttt tat act att gtg att ccc atg ctg aat cca ctc Val Ala Pro Val Phe Tyr Thr Ile Val Ile Pro Met Leu Asn Pro Leu 275 280 285			864
att tat agt ctt aga aac aga gaa gtg aaa aat gct ctc att aga gtc Ile Tyr Ser Leu Arg Asn Arg Glu Val Lys Asn Ala Leu Ile Arg Val 290 295 300			912
atg cag aga aga cag gac tcc agg tag Met Gln Arg Arg Gln Asp Ser Arg 305 310			939

<210> 526

<211> 312

<212> PRT

<213> Homo Sapiens

<400> 526

Met Met Gly Arg Arg Asn Asp Thr Asn Val Ala Asp Phe Ile Leu Thr
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Gly Leu Ser Asp Ser Glu Glu Val Gln Met Ala Leu Phe Met Leu Phe
 20 25 30

Leu Leu Ile Tyr Leu Ile Thr Met Leu Gly Asn Val Gly Met Leu Leu
 35 40 45

Ile Ile Arg Leu Asp Leu Gln Leu His Thr Pro Met Tyr Phe Phe Leu
 50 55 60

Thr His Leu Ser Phe Ile Asp Leu Ser Tyr Ser Thr Val Val Thr Pro
 65 70 75 80

Lys Thr Leu Ala Asn Leu Leu Thr Ser Asn Tyr Ile Ser Phe Thr Gly
 85 90 95

Cys Phe Ala Gln Met Phe Cys Phe Val Phe Leu Gly Thr Ala Glu Cys
 100 105 110

Tyr Leu Leu Ser Ser Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys Ser
 115 120 125

Pro Leu His Tyr Thr Val Ile Met Ser Lys Arg Leu Cys Leu Ala Leu
 130 135 140

Ile Thr Gly Pro Tyr Val Ile Gly Phe Met Asp Ser Phe Val Asn Val
 145 150 155 160

Val Ser Met Ser Arg Leu His Phe Cys Asp Ser Asn Ile Ile His His
 165 170 175

Phe Phe Cys Asp Thr Ser Pro Ile Leu Ala Leu Ser Cys Thr Asp Thr
 180 185 190

Asp Asn Thr Glu Met Leu Ile Phe Ile Ile Ala Gly Ser Thr Leu Met
 195 200 205

Val Ser Leu Ile Thr Ile Ser Ala Ser Tyr Val Ser Ile Leu Ser Thr
 210 215 220

Ile Leu Lys Ile Asn Ser Thr Ser Gly Lys Gln Lys Ala Phe Ser Thr

225

230

235

240

Cys Val Ser His Leu Leu Gly Val Thr Ile Phe Tyr Gly Thr Met Ile
 245 250 255

Phe Thr Tyr Leu Lys Pro Arg Lys Ser Tyr Ser Leu Gly Arg Asp Gln
 260 265 270

Val Ala Pro Val Phe Tyr Thr Ile Val Ile Pro Met Leu Asn Pro Leu
 275 280 285

Ile Tyr Ser Leu Arg Asn Arg Glu Val Lys Asn Ala Leu Ile Arg Val
 290 295 300

Met Gln Arg Arg Gln Asp Ser Arg
 305 310

<210> 527

<211> 924

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS.

<222> (1)..(921)

<223>

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Met Gly Gln His Asn Leu Thr Val Leu Thr Glu Phe Ile Leu Met Glu
 1 5 10 15

ctc aca agg cgg cct gag ctg cag att ccc ctt ttt gga gtc ttc ctc 96
 Leu Thr Arg Arg Pro Glu Leu Gln Ile Pro Leu Phe Gly Val Phe Leu
 20 25 30

gtc atc tac cta atc aca gtg gtg ggc aac cta act atg atc att ttg 144
 Val Ile Tyr Leu Ile Thr Val Val Gly Asn Leu Thr Met Ile Ile Leu
 35 40 45

acc aaa ctg gac tcc cac tta cat aca cct atg tac ttt tct atc aga 192
 Thr Lys Leu Asp Ser His Leu His Thr Pro Met Tyr Phe Ser Ile Arg
 50 55 60

cat ttg gct ttt gtt gat ctt ggt aat tct act gtc att tgt ccc aag 240
 His Leu Ala Phe Val Asp Leu Gly Asn Ser Thr Val Ile Cys Pro Lys
 65 70 75 80

gtg ctg gca aat ttt gtt gtg gat cga aat act att tcc tat tat gca 288
 Val Leu Ala Asn Phe Val Val Asp Arg Asn Thr Ile Ser Tyr Tyr Ala
 85 90 95

tgt gct gca cag ctg gca ttc ttc ctt atg ttc att atc agt gaa ttt 336
 Cys Ala Ala Gln Leu Ala Phe Phe Leu Met Phe Ile Ile Ser Glu Phe

100	105	110	
ttc atc ctg tca gcc atg gcc tat gac cgc tat gtg gcc att tgt aac			384
Phe Ile Leu Ser Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn			
115	120	125	
cct ctg ctc tat tat gtt att atg tct cag cga ctg tgt cat gta ctg			432
Pro Leu Leu Tyr Tyr Val Ile Met Ser Gln Arg Leu Cys His Val Leu			
130	135	140	
gtg ggc att caa tat ctc tac agc aca ttt cag gct ctg atg ttc act			480
Val Gly Ile Gln Tyr Leu Tyr Ser Thr Phe Gln Ala Leu Met Phe Thr			
145	150	155	160
att aag att ttt aca ttg acc ttc tgt ggc tct aat gtc atc agt cat			528
Ile Lys Ile Phe Thr Leu Thr Phe Cys Gly Ser Asn Val Ile Ser His			
165	170	175	
ttt tac tgt gat gat gtt cct ttg cta cct atg ctt tgc tca aat gca			576
Phe Tyr Cys Asp Asp Val Pro Leu Leu Pro Met Leu Cys Ser Asn Ala			
180	185	190	
cag gaa ata gaa ttg ttg agc ata cta ttt tct gta ttt aat ttg atc			624
Gln Glu Ile Glu Leu Leu Ser Ile Leu Phe Ser Val Phe Asn Leu Ile			
195	200	205	
tcc tcc ttt ctg ata gtc tta gtg tcc tac atg ttg att ttg tta gct			672
Ser Ser Phe Leu Ile Val Leu Val Ser Tyr Met Leu Ile Leu Leu Ala			
210	215	220	
ata tgt caa atg cat tct gca gag ggc agg aaa aag gct ttc tcc aca			720
Ile Cys Gln Met His Ser Ala Glu Gly Arg Lys Lys Ala Phe Ser Thr			
225	230	235	240
tgt ggt tcc cat ttg aca gtg gtg gtt gtg ttc tat ggg tct cta ctc			768
Cys Gly Ser His Leu Thr Val Val Val Val Phe Tyr Gly Ser Leu Leu			
245	250	255	
ttc atg tac atg cag ccc aat tcc act cac ttc ttt gat act gat aaa			816
Phe Met Tyr Met Gln Pro Asn Ser Thr His Phe Phe Asp Thr Asp Lys			
260	265	270	
atg gct tct gtg ttt tac act tta gta atc ccc atg ctt aac cct ttg			864
Met Ala Ser Val Phe Tyr Thr Leu Val Ile Pro Met Leu Asn Pro Leu			
275	280	285	
att tac agc tta aga aac gaa gag gtg aaa aat gcc ttc tat aag ctc			912
Ile Tyr Ser Leu Arg Asn Glu Glu Val Lys Asn Ala Phe Tyr Lys Leu			
290	295	300	
ttt gag aat tga			924
Phe Glu Asn			
305			

<210> 528

<211> 307

<212> PRT

<213> Homo Sapiens

<400> 528

Met Gly Gln His Asn Leu Thr Val Leu Thr Glu Phe Ile Leu Met Glu
 1 5 10 15
 Leu Thr Arg Arg Pro Glu Leu Gln Ile Pro Leu Phe Gly Val Phe Leu
 20 25 30
 Val Ile Tyr Leu Ile Thr Val Val Gly Asn Leu Thr Met Ile Ile Leu
 35 40 45
 Thr Lys Leu Asp Ser His Leu His Thr Pro Met Tyr Phe Ser Ile Arg
 50 55 60
 His Leu Ala Phe Val Asp Leu Gly Asn Ser Thr Val Ile Cys Pro Lys
 65 70 75 80
 Val Leu Ala Asn Phe Val Val Asp Arg Asn Thr Ile Ser Tyr Tyr Ala
 85 90 95
 Cys Ala Ala Gln Leu Ala Phe Phe Leu Met Phe Ile Ile Ser Glu Phe
 100 105 110
 Phe Ile Leu Ser Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn
 115 120 125
 Pro Leu Leu Tyr Tyr Val Ile Met Ser Gln Arg Leu Cys His Val Leu
 130 135 140
 Val Gly Ile Gln Tyr Leu Tyr Ser Thr Phe Gln Ala Leu Met Phe Thr
 145 150 155 160
 Ile Lys Ile Phe Thr Leu Thr Phe Cys Gly Ser Asn Val Ile Ser His
 165 170 175
 Phe Tyr Cys Asp Asp Val Pro Leu Leu Pro Met Leu Cys Ser Asn Ala
 180 185 190
 Gln Glu Ile Glu Leu Leu Ser Ile Leu Phe Ser Val Phe Asn Leu Ile
 195 200 205
 Ser Ser Phe Leu Ile Val Leu Val Ser Tyr Met Leu Ile Leu Leu Ala
 210 215 220
 Ile Cys Gln Met His Ser Ala Glu Gly Arg Lys Lys Ala Phe Ser Thr
 225 230 235 240
 Cys Gly Ser His Leu Thr Val Val Val Val Phe Tyr Gly Ser Leu Leu

245 250 255

Phe Met Tyr Met Gln Pro Asn Ser Thr His Phe Phe Asp Thr Asp Lys
260 265 270

Met Ala Ser Val Phe Tyr Thr Leu Val Ile Pro Met Leu Asn Pro Leu
275 280 285

Ile Tyr Ser Leu Arg Asn Glu Glu Val Lys Asn Ala Phe Tyr Lys Leu
290 295 300

Phe Glu Asn
305

<210> 529
<211> 939
<212> DNA
<213> Homo Sapiens

<220>
<221> CDS
<222> (1)..(936)
<223>

<400> 529atg gct gat gat aat ttt aca gtt gtc act gag ttt att ctt ttg gga
48
Met Ala Asp Asp Asn Phe Thr Val Val Thr Glu Phe Ile Leu Leu Gly
1 5 10 15
ttg aca gat cat gct gaa cta aaa gct gtg ctt ttt gtg gtg ttc ctg 96
Leu Thr Asp His Ala Glu Leu Lys Ala Val Leu Phe Val Val Phe Leu
20 25 30
gtg att tac gcc att acc ttg ttg agg aat ctg ggc atg atc ctc tta 144
Val Ile Tyr Ala Ile Thr Leu Leu Arg Asn Leu Gly Met Ile Leu Leu
35 40 45
atc caa atc acc tcc aaa ctc cac aca ccc atg tac ttt tta ctc agc 192
Ile Gln Ile Thr Ser Lys Leu His Thr Pro Met Tyr Phe Leu Leu Ser
50 55 60
tgt ctt tca ttt gtg gat gcc tgc tat tca tct gca att gca ccc aaa 240
Cys Leu Ser Phe Val Asp Ala Cys Tyr Ser Ser Ala Ile Ala Pro Lys
65 70 75 80
atg ctg gtg aac ctc ctg gtt gtg aag gca aca att tct ttc tct gct 288
Met Leu Val Asn Leu Leu Val Val Lys Ala Thr Ile Ser Phe Ser Ala
85 90 95
tgc atg gta cag cat ttg tgt ttc gga gtg ttc atc acc aca gaa ggc 336
Cys Met Val Gln His Leu Cys Phe Gly Val Phe Ile Thr Thr Glu Gly
100 105 110
ttc tta ctg tca gtg atg gcc tat gac cgc tat gtg gcc att gtg agt 384
Phe Leu Leu Ser Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Val Ser

115	120	125	
ccc ttg ctt tac act gta gcc atg tct gat aga aag tgt gtg gag ctt			432
Pro Leu Leu Tyr Thr Val Ala Met Ser Asp Arg Lys Cys Val Glu Leu			
130	135	140	
gtc aca gga tca tgg ata ggt gga ata gtt aac aca tta atc cac aca			480
Val Thr Gly Ser Trp Ile Gly Gly Ile Val Asn Thr Leu Ile His Thr			
145	150	155	160
atc agc ttg agg aga ctg tcc ttt tgt agg cta aat gct gtc agc cac			528
Ile Ser Leu Arg Arg Leu Ser Phe Cys Arg Leu Asn Ala Val Ser His			
	165	170	175
ttc ttc tgt gac att cct tca ctg cta aag ctg tca tgt tct gac acc			576
Phe Phe Cys Asp Ile Pro Ser Leu Leu Lys Leu Ser Cys Ser Asp Thr			
	180	185	190
tcc atg aat gag ttg ttg ctg tta acc ttc tcc gga gtc att gcc atg			624
Ser Met Asn Glu Leu Leu Leu Thr Phe Ser Gly Val Ile Ala Met			
	195	200	205
gcc acc ttc ttg act gtg atc att tcc tac atc ttc att gct ttt gct			672
Ala Thr Phe Leu Thr Val Ile Ile Ser Tyr Ile Phe Ile Ala Phe Ala			
	210	215	220
agc cta agg atc cac tca gca tca ggc aga cag caa gcc ttc tcc acc			720
Ser Leu Arg Ile His Ser Ala Ser Gly Arg Gln Gln Ala Phe Ser Thr			
	225	230	235
tgt gcc tct cac ctg act gct gtg acc ata ttc tat ggt acc tta atc			768
Cys Ala Ser His Leu Thr Ala Val Thr Ile Phe Tyr Gly Thr Leu Ile			
	245	250	255
ttt agc tac att cag cca agc tcc cag tat ttt gtg gaa caa gag aaa			816
Phe Ser Tyr Ile Gln Pro Ser Ser Gln Tyr Phe Val Glu Gln Glu Lys			
	260	265	270
gtg gtt tct atg ttc tat acg cta ggg att ccc atg tta aac ctg ttg			864
Val Val Ser Met Phe Tyr Thr Leu Gly Ile Pro Met Leu Asn Leu Leu			
	275	280	285
ata cac agt ttg aga aac aag gac gta aag gag gca gtg aaa agg gcc			912
Ile His Ser Leu Arg Asn Lys Asp Val Lys Glu Ala Val Lys Arg Ala			
	290	295	300
ata gaa atg aaa cat ttc ctc tgt taa			939
Ile Glu Met Lys His Phe Leu Cys			
305	310		
<210> 530			
<211> 312			
<212> PRT			
<213> Homo Sapiens			
<400> 530			
Met Ala Asp Asp Asn Phe Thr Val Val Thr Glu Phe Ile Leu Leu Gly			
1	5	10	15

Leu Thr Asp His Ala Glu Leu Lys Ala Val Leu Phe Val Val Phe Leu
 20 25 30

Val Ile Tyr Ala Ile Thr Leu Leu Arg Asn Leu Gly Met Ile Leu Leu
 35 40 45

Ile Gln Ile Thr Ser Lys Leu His Thr Pro Met Tyr Phe Leu Leu Ser
 50 55 60

Cys Leu Ser Phe Val Asp Ala Cys Tyr Ser Ser Ala Ile Ala Pro Lys
 65 70 75 80

Met Leu Val Asn Leu Leu Val Val Lys Ala Thr Ile Ser Phe Ser Ala
 85 90 95

Cys Met Val Gln His Leu Cys Phe Gly Val Phe Ile Thr Thr Glu Gly
 100 105 110

Phe Leu Leu Ser Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Val Ser
 115 120 125

Pro Leu Leu Tyr Thr Val Ala Met Ser Asp Arg Lys Cys Val Glu Leu
 130 135 140

Val Thr Gly Ser Trp Ile Gly Gly Ile Val Asn Thr Leu Ile His Thr
 145 150 155 160

Ile Ser Leu Arg Arg Leu Ser Phe Cys Arg Leu Asn Ala Val Ser His
 165 170 175

Phe Phe Cys Asp Ile Pro Ser Leu Leu Lys Leu Ser Cys Ser Asp Thr
 180 185 190

Ser Met Asn Glu Leu Leu Leu Leu Thr Phe Ser Gly Val Ile Ala Met
 195 200 205

Ala Thr Phe Leu Thr Val Ile Ile Ser Tyr Ile Phe Ile Ala Phe Ala
 210 215 220

Ser Leu Arg Ile His Ser Ala Ser Gly Arg Gln Gln Ala Phe Ser Thr
 225 230 235 240

Cys Ala Ser His Leu Thr Ala Val Thr Ile Phe Tyr Gly Thr Leu Ile
 245 250 255

Phe Ser Tyr Ile Gln Pro Ser Ser Gln Tyr Phe Val Glu Gln Glu Lys

260

265

270

Val Val Ser Met Phe Tyr Thr Leu Gly Ile Pro Met Leu Asn Leu Leu
 275 280 285

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 290 295 300

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 305 310

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ctg aca gac gac cca gtg cta gag aag atc ctg ttt ggg gtg ttc ctg 96
 Leu Thr Asp Asp Pro Val Leu Glu Lys Ile Leu Phe Gly Val Phe Leu
 20 25 30

gcg atc tac cta atc aca ctg gca ggc aac ctg tgc atg atc ctg ctg 144
 Ala Ile Tyr Leu Ile Thr Leu Ala Gly Asn Leu Cys Met Ile Leu Leu
 35 40 45

atc agg acc aat tcc caa ctg caa aca ccc atg tat ttc ttc ctt ggt 192
 Ile Arg Thr Asn Ser Gln Leu Gln Thr Pro Met Tyr Phe Phe Leu Gly
 50 55 60

cac ctc tcc ttt gta gac att tgc tat tct tcc aat gtt act cca aat 240
 His Leu Ser Phe Val Asp Ile Cys Tyr Ser Ser Asn Val Thr Pro Asn
 65 70 75 80

atg ctg cac aat ttc ctc tca gaa cag aag acc atc tcc tac gct gga 288
 Met Leu His Asn Phe Leu Ser Glu Gln Lys Thr Ile Ser Tyr Ala Gly
 85 90 95

tgc ttc aca cag tgt ctt ctc ttc atc gcc cta gtg atc act gag ttt 336
 Cys Phe Thr Gln Cys Leu Leu Phe Ile Ala Leu Val Ile Thr Glu Phe
 100 105 110

tac ttc ctt gct tca atg gca ttg gat cgc tat gta gcc att tgc agc 384
 Tyr Phe Leu Ala Ser Met Ala Leu Asp Arg Tyr Val Ala Ile Cys Ser
 115 120 125

cct tta cat tac agt tcc agg atg tcc aag aac att tgc atc tct ctg 432
 Pro Leu His Tyr Ser Ser Arg Met Ser Lys Asn Ile Cys Ile Ser Leu

130	135	140	
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Val Thr Val Pro Tyr Met Tyr Gly Phe Leu Asn Gly Leu Ser Gln Thr			
145	150	155	160
ctg ctg acc ttt cac tta tcc ttc tgt ggc tcc ctt gaa atc aat cat			528
Leu Leu Thr Phe His Leu Ser Phe Cys Gly Ser Leu Glu Ile Asn His			
	165	170	175
ttc tac tgc gct gat cct cct ctt atc atg ctg gcc tgc tct gac acc			576
Phe Tyr Cys Ala Asp Pro Pro Leu Ile Met Leu Ala Cys Ser Asp Thr			
	180	185	190
cgt gtc aaa aag atg gca atg ttt gta gtt gca ggc ttt act ctc tca			624
Arg Val Lys Lys Met Ala Met Phe Val Val Ala Gly Phe Thr Leu Ser			
	195	200	205
agc tct ctc ttc atc att ctt ctg tcc tat ctt ttc att ttt gca gcg			672
Ser Ser Leu Phe Ile Ile Leu Leu Ser Tyr Leu Phe Ile Phe Ala Ala			
	210	215	220
atc ttc agg atc cgt tct gct gaa ggc agg cac aaa gcc ttt tct acg			720
Ile Phe Arg Ile Arg Ser Ala Glu Gly Arg His Lys Ala Phe Ser Thr			
	225	230	240
tgt gct tcc cac ctg aca ata gtc act ttg ttt tat gga acc ctc ttc			768
Cys Ala Ser His Leu Thr Ile Val Thr Leu Phe Tyr Gly Thr Leu Phe			
	245	250	255
tgc atg tac gta agg cct cca tca gag aag tct gta gag gag tcc aaa			816
Cys Met Tyr Val Arg Pro Pro Ser Glu Lys Ser Val Glu Glu Ser Lys			
	260	265	270
ata att gca gtc ttt tat act ttt ttg agc cca atg ctg aac cca ttg			864
Ile Ile Ala Val Phe Tyr Thr Phe Leu Ser Pro Met Leu Asn Pro Leu			
	275	280	285
atc tat agc cta cgg aac aga gat gta atc ctt gcc ata caa caa atg			912
Ile Tyr Ser Leu Arg Asn Arg Asp Val Ile Leu Ala Ile Gln Gln Met			
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Leu Thr Asp Asp Pro Val Leu Glu Lys Ile Leu Phe Gly Val Phe Leu			
	20	25	30

Ala Ile Tyr Leu Ile Thr Leu Ala Gly Asn Leu Cys Met Ile Leu Leu
35 40 45

Ile Arg Thr Asn Ser Gln Leu Gln Thr Pro Met Tyr Phe Phe Leu Gly
50 55 60

His Leu Ser Phe Val Asp Ile Cys Tyr Ser Ser Asn Val Thr Pro Asn
65 70 75 80

Met Leu His Asn Phe Leu Ser Glu Gln Lys Thr Ile Ser Tyr Ala Gly
85 90 95

Cys Phe Thr Gln Cys Leu Leu Phe Ile Ala Leu Val Ile Thr Glu Phe
100 105 110

Tyr Phe Leu Ala Ser Met Ala Leu Asp Arg Tyr Val Ala Ile Cys Ser
115 120 125

Pro Leu His Tyr Ser Ser Arg Met Ser Lys Asn Ile Cys Ile Ser Leu
130 135 140

Val Thr Val Pro Tyr Met Tyr Gly Phe Leu Asn Gly Leu Ser Gln Thr
145 150 155 160

Leu Leu Thr Phe His Leu Ser Phe Cys Gly Ser Leu Glu Ile Asn His
165 170 175

Phe Tyr Cys Ala Asp Pro Pro Leu Ile Met Leu Ala Cys Ser Asp Thr
180 185 190

Arg Val Lys Lys Met Ala Met Phe Val Val Ala Gly Phe Thr Leu Ser
195 200 205

Ser Ser Leu Phe Ile Ile Leu Leu Ser Tyr Leu Phe Ile Phe Ala Ala
210 215 220

Ile Phe Arg Ile Arg Ser Ala Glu Gly Arg His Lys Ala Phe Ser Thr
225 230 235 240

Cys Ala Ser His Leu Thr Ile Val Thr Leu Phe Tyr Gly Thr Leu Phe
245 250 255

Cys Met Tyr Val Arg Pro Pro Ser Glu Lys Ser Val Glu Glu Ser Lys
260 265 270

Ile Ile Ala Val Phe Tyr Thr Phe Leu Ser Pro Met Leu Asn Pro Leu

275

280

285

Ile Tyr Ser Leu Arg Asn Arg Asp Val Ile Leu Ala Ile Gln Gln Met
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 Ile Phe Asn His Ser Pro Thr His Thr Phe Leu Phe Ser Leu Val Leu
 20 25 30

ggc atc ttc tca ctg gca ttg atg gaa aat att tcc atg gtt ctc ctc 144
 Gly Ile Phe Ser Leu Ala Leu Met Glu Asn Ile Ser Met Val Leu Leu
 35 40 45

atc tac ata gag aaa cag ctc cac acc ccc atg tac ttc ctc ctc agt 192
 Ile Tyr Ile Glu Lys Gln Leu His Thr Pro Met Tyr Phe Leu Leu Ser
 50 55 60

caa ctg tcc ctt atg gac ctc atg ctc atc tgc acc act cta ccc aag 240
 Gln Leu Ser Leu Met Asp Leu Met Leu Ile Cys Thr Thr Leu Pro Lys
 65 70 75 80

atg atc ttc agc tac ttg tct ggg aag aaa tct atc tct ctg gca ggt 288
 Met Ile Phe Ser Tyr Leu Ser Gly Lys Lys Ser Ile Ser Leu Ala Gly
 85 90 95

tgt gga act cag ata ttc ttc tat gtg tcc ctg ctt gga gct gaa tgt 336
 Cys Gly Thr Gln Ile Phe Phe Tyr Val Ser Leu Leu Gly Ala Glu Cys
 100 105 110

ttc ttg ttg gct gtc atg gct tat gac cgc tat gtg gct ata tgt cac 384
 Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His
 115 120 125

cct ctt cag tac acc atc ctc atg aat ccg aaa ctc tgt gtc ttc atg 432
 Pro Leu Gln Tyr Thr Ile Leu Met Asn Pro Lys Leu Cys Val Phe Met
 130 135 140

act gtt gct tcc tgg acc ttg ggg tct ctt gat ggg atc ata gtg ctt 480
 Thr Val Ala Ser Trp Thr Leu Gly Ser Leu Asp Gly Ile Ile Val Leu

145	150	155	160	
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Ala Ala Val Leu Ser Phe Ser Tyr Cys Ser Ser Leu Glu Ile His His	165	170	175	
ttt ttc tgt gat gtt gct gcc ctt tta cct cta tcc tgc aca gaa aca				576
Phe Phe Cys Asp Val Ala Ala Leu Leu Pro Leu Ser Cys Thr Glu Thr	180	185	190	
tct gca ttt gaa aga cta ctt gtc att tgt tgt gtg gta atg cta atc				624
Ser Ala Phe Glu Arg Leu Leu Val Ile Cys Cys Val Val Met Leu Ile	195	200	205	
ttt cca gtt tca gtt atc ata ctt tcc tat tcc cat gtc ctt cga gcc				672
Phe Pro Val Ser Val Ile Ile Leu Ser Tyr Ser His Val Leu Arg Ala	210	215	220	
gtc atc cac atg ggc tct ggg gaa agt cgt cgc aag gcc ttc act acc				720
Val Ile His Met Gly Ser Gly Glu Ser Arg Arg Lys Ala Phe Thr Thr	225	230	235	240
tgc tcc tcc cac ctg tct gtg gtc gga ctc tac tac ggt gct gct atg				768
Cys Ser Ser His Leu Ser Val Val Gly Leu Tyr Tyr Gly Ala Ala Met	245	250	255	
ttc atg tac atg aga cca gct tct aaa cat acg cca gac cag gac aag				816
Phe Met Tyr Met Arg Pro Ala Ser Lys His Thr Pro Asp Gln Asp Lys	260	265	270	
atg gtg tgc gcc ttc tac act att ctc acc cct atg ctg aac cct ctc				864
Met Val Ser Ala Phe Tyr Thr Ile Leu Thr Pro Met Leu Asn Pro Leu	275	280	285	
att tat agc ctc cgc aac aaa gaa gtg ttc agg gca cta cag aag gta				912
Ile Tyr Ser Leu Arg Asn Lys Glu Val Phe Arg Ala Leu Gln Lys Val	290	295	300	
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Leu Lys Lys Arg Lys Ile	305	310		
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	20	25	30	
Gly Ile Phe Ser Leu Ala Leu Met Glu Asn Ile Ser Met Val Leu Leu				
	35	40	45	

Ile Tyr Ile Glu Lys Gln Leu His Thr Pro Met Tyr Phe Leu Leu Ser
 50 55 60

Gln Leu Ser Leu Met Asp Leu Met Leu Ile Cys Thr Thr Leu Pro Lys
 65 70 75 80

Met Ile Phe Ser Tyr Leu Ser Gly Lys Lys Ser Ile Ser Leu Ala Gly
 85 90 95

Cys Gly Thr Gln Ile Phe Phe Tyr Val Ser Leu Leu Gly Ala Glu Cys
 100 105 110

Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His
 115 120 125

Pro Leu Gln Tyr Thr Ile Leu Met Asn Pro Lys Leu Cys Val Phe Met
 130 135 140

Thr Val Ala Ser Trp Thr Leu Gly Ser Leu Asp Gly Ile Ile Val Leu
 145 150 155 160

Ala Ala Val Leu Ser Phe Ser Tyr Cys Ser Ser Leu Glu Ile His His
 165 170 175

Phe Phe Cys Asp Val Ala Ala Leu Leu Pro Leu Ser Cys Thr Glu Thr
 180 185 190

Ser Ala Phe Glu Arg Leu Leu Val Ile Cys Cys Val Val Met Leu Ile
 195 200 205

Phe Pro Val Ser Val Ile Ile Leu Ser Tyr Ser His Val Leu Arg Ala
 210 215 220

Val Ile His Met Gly Ser Gly Glu Ser Arg Arg Lys Ala Phe Thr Thr
 225 230 235 240

Cys Ser Ser His Leu Ser Val Val Gly Leu Tyr Tyr Gly Ala Ala Met
 245 250 255

Phe Met Tyr Met Arg Pro Ala Ser Lys His Thr Pro Asp Gln Asp Lys
 260 265 270

Met Val Ser Ala Phe Tyr Thr Ile Leu Thr Pro Met Leu Asn Pro Leu
 275 280 285

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290

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300

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Ile Phe Asn His Ser Pro Thr His Thr Phe Leu Phe Phe Leu Val Leu
20 25 30
gcc atc ttt tca gtg gcc ttc atg gga aac tct gtc atg gtt ctc ctc 144
Ala Ile Phe Ser Val Ala Phe Met Gly Asn Ser Val Met Val Leu Leu
35 40 45
atc tac ctg gac acc cag ctc cac acc ccc atg tac ctc ctc ctc agc 192
Ile Tyr Leu Asp Thr Gln Leu His Thr Pro Met Tyr Leu Leu Leu Ser
50 55 60
caa ctg tcc ctc atg gac ctc atg ctc atc tgc acc acc gta ccc aag 240
Gln Leu Ser Leu Met Asp Leu Met Leu Ile Cys Thr Thr Val Pro Lys
65 70 75 80
atg gcc ttc aac tac ctg tct ggc agc aag tcc att tct atg gct ggt 288
Met Ala Phe Asn Tyr Leu Ser Gly Ser Lys Ser Ile Ser Met Ala Gly
85 90 95
tgt gcc aca caa att ttc ttc tat aca tca ctg ctt ggc tct gag tgc 336
Cys Ala Thr Gln Ile Phe Phe Tyr Thr Ser Leu Leu Gly Ser Glu Cys
100 105 110
ttt ctt ttg gct gtt atg gct tat gac cgc tac act gcc att tgc cac 384
Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Tyr Thr Ala Ile Cys His
115 120 125
cct cta aga tac acc aat ctc atg agc cct aaa att tgt gga ctt atg 432
Pro Leu Arg Tyr Thr Asn Leu Met Ser Pro Lys Ile Cys Gly Leu Met
130 135 140
act gcc ttt tcc tgg atc ctg ggc tct acg gat gga att att gat gtt 480
Thr Ala Phe Ser Trp Ile Leu Gly Ser Thr Asp Gly Ile Ile Asp Val
145 150 155 160
gta gca aca ttt tcc ttc tcc tac tgt ggg tct cgg gaa ata gcc cac 528
Val Ala Thr Phe Ser Phe Ser Tyr Cys Gly Ser Arg Glu Ile Ala His

165	170	175	
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tca ata ttt gaa aag att ctt ttc atc tgc tgt ata gta atg att gtt Ser Ile Phe Glu Lys Ile Leu Phe Ile Cys Cys Ile Val Met Ile Val 195 200 205			624
ttc cct gtt gca atc atc att gct tcc tat gct cga gtt atc ctg gct Phe Pro Val Ala Ile Ile Ile Ala Ser Tyr Ala Arg Val Ile Leu Ala 210 215 220			672
gtc att cac atg gga tct gga gag ggt cgt cgc aaa gct ttt act act Val Ile His Met Gly Ser Gly Glu Gly Arg Arg Lys Ala Phe Thr Thr 225 230 235 240			720
tgt tcc tct cac ctc ttg gtg gtg gga atg tac tat gga gca gct ttg Cys Ser Ser His Leu Leu Val Val Gly Met Tyr Tyr Gly Ala Ala Leu 245 250 255			768
ttc atg tac ata cgg ccc aca tct gat cgc tcc cca aca cag gac aag Phe Met Tyr Ile Arg Pro Thr Ser Asp Arg Ser Pro Thr Gln Asp Lys 260 265 270			816
atg gtg tct gta ttc tac acc atc ctc act ccc atg ttg aat ccc ctc Met Val Ser Val Phe Tyr Thr Ile Leu Thr Pro Met Leu Asn Pro Leu 275 280 285			864
atc tac agc ctc cgc aac aag gag gtg acc aga gca ttc atg aag atc Ile Tyr Ser Leu Arg Asn Lys Glu Val Thr Arg Ala Phe Met Lys Ile 290 295 300			912
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Ile Phe Asn His Ser Pro Thr His Thr Phe Leu Phe Phe Leu Val Leu 20 25 30			
Ala Ile Phe Ser Val Ala Phe Met Gly Asn Ser Val Met Val Leu Leu 35 40 45			
Ile Tyr Leu Asp Thr Gln Leu His Thr Pro Met Tyr Leu Leu Leu Ser 50 55 60			

Gln Leu Ser Leu Met Asp Leu Met Leu Ile Cys Thr Thr Val Pro Lys
 65 70 75 80

Met Ala Phe Asn Tyr Leu Ser Gly Ser Lys Ser Ile Ser Met Ala Gly
 85 90 95

Cys Ala Thr Gln Ile Phe Phe Tyr Thr Ser Leu Leu Gly Ser Glu Cys
 100 105 110

Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Tyr Thr Ala Ile Cys His
 115 120 125

Pro Leu Arg Tyr Thr Asn Leu Met Ser Pro Lys Ile Cys Gly Leu Met
 130 135 140

Thr Ala Phe Ser Trp Ile Leu Gly Ser Thr Asp Gly Ile Ile Asp Val
 145 150 155 160

Val Ala Thr Phe Ser Phe Ser Tyr Cys Gly Ser Arg Glu Ile Ala His
 165 170 175

Phe Phe Cys Asp Phe Pro Ser Leu Leu Ile Leu Ser Cys Ser Asp Thr
 180 185 190

Ser Ile Phe Glu Lys Ile Leu Phe Ile Cys Cys Ile Val Met Ile Val
 195 200 205

Phe Pro Val Ala Ile Ile Ile Ala Ser Tyr Ala Arg Val Ile Leu Ala
 210 215 220

Val Ile His Met Gly Ser Gly Glu Gly Arg Arg Lys Ala Phe Thr Thr
 225 230 235 240

Cys Ser Ser His Leu Leu Val Val Gly Met Tyr Tyr Gly Ala Ala Leu
 245 250 255

Phe Met Tyr Ile Arg Pro Thr Ser Asp Arg Ser Pro Thr Gln Asp Lys
 260 265 270

Met Val Ser Val Phe Tyr Thr Ile Leu Thr Pro Met Leu Asn Pro Leu
 275 280 285

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 290 295 300

Leu Gly Lys Gly Lys Ser Gly Glu

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 aac cac acc aga gcc cac caa gtc ctc ttc atg atg ctt ctg gcc acc 96
 Asn His Thr Arg Ala His Gln Val Leu Phe Met Met Leu Leu Ala Thr
 20 25 30
 gtt ttg acc tcc ctg ttt agc aat gcc ctc atg att ctc ctg att cac 144
 Val Leu Thr Ser Leu Phe Ser Asn Ala Leu Met Ile Leu Leu Ile His
 35 40 45
 tgg gac cac cgg ctc cac agg ccc atg tac ttc ctc ctg agc caa ctt 192
 Trp Asp His Arg Leu His Arg Pro Met Tyr Phe Leu Leu Ser Gln Leu
 50 55 60
 tcc ctc atg gac atg atg ctg gtt tcc acc act gtg ccc aaa atg gcg 240
 Ser Leu Met Asp Met Met Leu Val Ser Thr Thr Val Pro Lys Met Ala
 65 70 75 80
 gct gac tac ttg acc gga aat aag gcc atc tcc cgc gct ggc tgt ggt 288
 Ala Asp Tyr Leu Thr Gly Asn Lys Ala Ile Ser Arg Ala Gly Cys Gly
 85 90 95
 gtg cag atc ttc ttc ctc ccc aca ctg ggt ggt gga gag tgc ttc ctc 336
 Val Gln Ile Phe Phe Leu Pro Thr Leu Gly Gly Gly Glu Cys Phe Leu
 100 105 110
 tta gca gcc atg gcc tat gac cgc tat gcg gct gtc tgc cac cca ctc 384
 Leu Ala Ala Met Ala Tyr Asp Arg Tyr Ala Ala Val Cys His Pro Leu
 115 120 125
 cga tat ccc act ctc atg agc tgg cag ctg tgc ctg agg atg acc atg 432
 Arg Tyr Pro Thr Leu Met Ser Trp Gln Leu Cys Leu Arg Met Thr Met
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 tcg tcc tgg ctc ctg ggt gca gct gac ggc ctc ctg cag gct gtt gct 480
 Ser Ser Trp Leu Leu Gly Ala Ala Asp Gly Leu Leu Gln Ala Val Ala
 145 150 155 160
 acc ctg agc ttc cca tat tgc ggt gca cac gag atc gat cac ttc ttc 528
 Thr Leu Ser Phe Pro Tyr Cys Gly Ala His Glu Ile Asp His Phe Phe
 165 170 175
 tgc gag gcc ccc gtg ttg gtg cgt ttg gct tgt gct gac act tca gtc 576
 Cys Glu Ala Pro Val Leu Val Arg Leu Ala Cys Ala Asp Thr Ser Val

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195	200	205	
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Phe Ser Leu Ile Leu Ser Ser Tyr Gly Leu Ile Leu Ala Ala Val Leu			
210	215	220	
ctc atg cgc tct aca gaa gcc cgc aag aag gcc ttt gcc acc tgc tct			720
Leu Met Arg Ser Thr Glu Ala Arg Lys Lys Ala Phe Ala Thr Cys Ser			
225	230	235	240
tca cat gtg gct gtg gtg gga ctc ttt tat gga gct ggc att ttt acc			768
Ser His Val Ala Val Val Gly Leu Phe Tyr Gly Ala Gly Ile Phe Thr			
245	250	255	
tat atg aga ccc aaa tcc cac agg tcc act aac cac gat aag gtt gtg			816
Tyr Met Arg Pro Lys Ser His Arg Ser Thr Asn His Asp Lys Val Val			
260	265	270	
tca gcc ttc tat act atg ttc acc cct tta cta aat ccc ctc atc tac			864
Ser Ala Phe Tyr Thr Met Phe Thr Pro Leu Leu Asn Pro Leu Ile Tyr			
275	280	285	
agt gtg agg aac agt gag gtc aag gaa gcc ctg aaa cgg tgg ctg ggg			912
Ser Val Arg Asn Ser Glu Val Lys Glu Ala Leu Lys Arg Trp Leu Gly			
290	295	300	
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Thr Cys Val Asn Leu Lys His Gln Gln Asn Glu Ala His Arg Ser Arg			
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tga			963
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20	25	30	
Val Leu Thr Ser Leu Phe Ser Asn Ala Leu Met Ile Leu Leu Ile His			
35	40	45	
Trp Asp His Arg Leu His Arg Pro Met Tyr Phe Leu Leu Ser Gln Leu			
50	55	60	
Ser Leu Met Asp Met Met Leu Val Ser Thr Thr Val Pro Lys Met Ala			
65	70	75	80

Ala Asp Tyr Leu Thr Gly Asn Lys Ala Ile Ser Arg Ala Gly Cys Gly
 85 90 95

Val Gln Ile Phe Phe Leu Pro Thr Leu Gly Gly Gly Glu Cys Phe Leu
 100 105 110

Leu Ala Ala Met Ala Tyr Asp Arg Tyr Ala Ala Val Cys His Pro Leu
 115 120 125

Arg Tyr Pro Thr Leu Met Ser Trp Gln Leu Cys Leu Arg Met Thr Met
 130 135 140

Ser Ser Trp Leu Leu Gly Ala Ala Asp Gly Leu Leu Gln Ala Val Ala
 145 150 155 160

Thr Leu Ser Phe Pro Tyr Cys Gly Ala His Glu Ile Asp His Phe Phe
 165 170 175

Cys Glu Ala Pro Val Leu Val Arg Leu Ala Cys Ala Asp Thr Ser Val
 180 185 190

Phe Glu Asn Ala Met Tyr Ile Cys Cys Val Leu Met Leu Leu Val Pro
 195 200 205

Phe Ser Leu Ile Leu Ser Ser Tyr Gly Leu Ile Leu Ala Ala Val Leu
 210 215 220

Leu Met Arg Ser Thr Glu Ala Arg Lys Lys Ala Phe Ala Thr Cys Ser
 225 230 235 240

Ser His Val Ala Val Val Gly Leu Phe Tyr Gly Ala Gly Ile Phe Thr
 245 250 255

Tyr Met Arg Pro Lys Ser His Arg Ser Thr Asn His Asp Lys Val Val
 260 265 270

Ser Ala Phe Tyr Thr Met Phe Thr Pro Leu Leu Asn Pro Leu Ile Tyr
 275 280 285

Ser Val Arg Asn Ser Glu Val Lys Glu Ala Leu Lys Arg Trp Leu Gly
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Thr Cys Val Asn Leu Lys His Gln Gln Asn Glu Ala His Arg Ser Arg
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 atc ttc aat cat agc ccc acc cac acc ttc ctc ttc ttt ctg gtc ctg 96
 Ile Phe Asn His Ser Pro Thr His Thr Phe Leu Phe Phe Leu Val Leu
 20 25 30
 gcc atc ttt tca gtg gcc ttc atg gga aac tcc atc atg gtt ctc ctc 144
 Ala Ile Phe Ser Val Ala Phe Met Gly Asn Ser Ile Met Val Leu Leu
 35 40 45
 atc tac ctg gat acc cag ctc cac acc ccc atg tac ttc ctc ctc agc 192
 Ile Tyr Leu Asp Thr Gln Leu His Thr Pro Met Tyr Phe Leu Leu Ser
 50 55 60
 caa ctg tcc ctc atg gac ctc atg ctc atc tgc acc act gta ccc aag 240
 Gln Leu Ser Leu Met Asp Leu Met Leu Ile Cys Thr Thr Val Pro Lys
 65 70 75 80
 atg gcc ttc aac tac ttg tct ggc agc aag tcc att tct atg gct ggc 288
 Met Ala Phe Asn Tyr Leu Ser Gly Ser Lys Ser Ile Ser Met Ala Gly
 85 90 95
 tgt gcc aca caa att ttc ttc tat ata tca ttg ctt ggc tcc gaa tgc 336
 Cys Ala Thr Gln Ile Phe Phe Tyr Ile Ser Leu Leu Gly Ser Glu Cys
 100 105 110
 ttt ctg ttg gct gtt atg tct tat gac cgc tac act gcc att tgc cac 384
 Phe Leu Leu Ala Val Met Ser Tyr Asp Arg Tyr Thr Ala Ile Cys His
 115 120 125
 cct cta aga tac acc aat ctc atg aga ccc aaa att tgt gga ctt atg 432
 Pro Leu Arg Tyr Thr Asn Leu Met Arg Pro Lys Ile Cys Gly Leu Met
 130 135 140
 act gcc ttc tcc tgg atc ctg ggc tct aca gat gga atc att gat gct 480
 Thr Ala Phe Ser Trp Ile Leu Gly Ser Thr Asp Gly Ile Ile Asp Ala
 145 150 155 160
 gta gcg aca ttt tcc ttc tcc tac tgt ggg tct cgg gaa ata gcc cac 528
 Val Ala Thr Phe Ser Phe Ser Tyr Cys Gly Ser Arg Glu Ile Ala His
 165 170 175
 ttc tgc tgt gac ttc cct tcc cta cta atc ctc tca tgc aat gac aca 576
 Phe Cys Cys Asp Phe Pro Ser Leu Leu Ile Leu Ser Cys Asn Asp Thr
 180 185 190

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tca ata ttt gaa gag gtt att ttc atc tgc tgt ata gta atg ctt gtt 624
 Ser Ile Phe Glu Glu Val Ile Phe Ile Cys Cys Ile Val Met Leu Val
 195 200 205

ttc cct gtt gca atc atc atc act tcc tat gct cga gtt att ctg gct 672
 Phe Pro Val Ala Ile Ile Ile Thr Ser Tyr Ala Arg Val Ile Leu Ala
 210 215 220

gtc att cac atg gga tct gga gag gga cgt cgc aaa gct ttt act act 720
 Val Ile His Met Gly Ser Gly Glu Gly Arg Arg Lys Ala Phe Thr Thr
 225 230 235 240

tgt tcc tct cac ctc atg gtg gtg gga atg tac tat gga gca ggt ttg 768
 Cys Ser Ser His Leu Met Val Val Gly Met Tyr Tyr Gly Ala Gly Leu
 245 250 255

ttc atg tgc att cag ccc aca tct cat cat tct cct atg cag gac aag 816
 Phe Met Cys Ile Gln Pro Thr Ser His His Ser Pro Met Gln Asp Lys
 260 265 270

atg gtg tct gta ttc tac acc atc gtc act ccc atg ctg aat cct ctc 864
 Met Val Ser Val Phe Tyr Thr Ile Val Thr Pro Met Leu Asn Pro Leu
 275 280 285

att tat agc ctc cgc aac aag gaa gtg acc aga gca tta atg aaa atc 912
 Ile Tyr Ser Leu Arg Asn Lys Glu Val Thr Arg Ala Leu Met Lys Ile
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Ala Ile Phe Ser Val Ala Phe Met Gly Asn Ser Ile Met Val Leu Leu
 35 40 45

Ile Tyr Leu Asp Thr Gln Leu His Thr Pro Met Tyr Phe Leu Leu Ser
 50 55 60

Gln Leu Ser Leu Met Asp Leu Met Leu Ile Cys Thr Thr Val Pro Lys
 65 70 75 80

Met Ala Phe Asn Tyr Leu Ser Gly Ser Lys Ser Ile Ser Met Ala Gly
 85 90 95

Cys Ala Thr Gln Ile Phe Phe Tyr Ile Ser Leu Leu Gly Ser Glu Cys
 100 105 110
 Phe Leu Leu Ala Val Met Ser Tyr Asp Arg Tyr Thr Ala Ile Cys His
 115 120 125
 Pro Leu Arg Tyr Thr Asn Leu Met Arg Pro Lys Ile Cys Gly Leu Met
 130 135 140
 Thr Ala Phe Ser Trp Ile Leu Gly Ser Thr Asp Gly Ile Ile Asp Ala
 145 150 155 160
 Val Ala Thr Phe Ser Phe Ser Tyr Cys Gly Ser Arg Glu Ile Ala His
 165 170 175
 Phe Cys Cys Asp Phe Pro Ser Leu Leu Ile Leu Ser Cys Asn Asp Thr
 180 185 190
 Ser Ile Phe Glu Glu Val Ile Phe Ile Cys Cys Ile Val Met Leu Val
 195 200 205
 Phe Pro Val Ala Ile Ile Ile Thr Ser Tyr Ala Arg Val Ile Leu Ala
 210 215 220
 Val Ile His Met Gly Ser Gly Glu Gly Arg Arg Lys Ala Phe Thr Thr
 225 230 235 240
 Cys Ser Ser His Leu Met Val Val Gly Met Tyr Tyr Gly Ala Gly Leu
 245 250 255
 Phe Met Cys Ile Gln Pro Thr Ser His His Ser Pro Met Gln Asp Lys
 260 265 270
 Met Val Ser Val Phe Tyr Thr Ile Val Thr Pro Met Leu Asn Pro Leu
 275 280 285
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 290 295 300
 Leu Gly Lys Gly Lys Ser Gly Asp
 305 310

<210> 541
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 <212> DNA

<213> Homo Sapiens

<220>

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<222> (1)..(960)

<223>

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1 5 10 15aac cac acc aga gcc cac caa gtc ctc ttc atg atg gtt ctg agt atc 96
Asn His Thr Arg Ala His Gln Val Leu Phe Met Met Val Leu Ser Ile
20 25 30gtt ttg acc tcc ctg ttt ggc aat tcc ctc atg att ctc ctg att cac 144
Val Leu Thr Ser Leu Phe Gly Asn Ser Leu Met Ile Leu Leu Ile His
35 40 45tgg gac cac cgg ctc cac acg ccc atg tac ttc ctc ctg agc caa ctt 192
Trp Asp His Arg Leu His Thr Pro Met Tyr Phe Leu Leu Ser Gln Leu
50 55 60tcc ctc atg gac atg atg ctg gtt tcc acc act gtg ccc aaa atg gcg 240
Ser Leu Met Asp Met Met Leu Val Ser Thr Thr Val Pro Lys Met Ala
65 70 75 80gct gac tac ttg acc gga agt aag gcc atc tcc cgc gct ggc tgt ggt 288
Ala Asp Tyr Leu Thr Gly Ser Lys Ala Ile Ser Arg Ala Gly Cys Gly
85 90 95gtg cag atc ttc ttc ctc ccc aca ctg ggt ggt gga gag tgc ttc ctc 336
Val Gln Ile Phe Phe Leu Pro Thr Leu Gly Gly Gly Glu Cys Phe Leu
100 105 110tta gca gcc atg gcc tat gac cgc tat gcg gct gtc tgc cac cca ctc 384
Leu Ala Ala Met Ala Tyr Asp Arg Tyr Ala Ala Val Cys His Pro Leu
115 120 125cga tat ccc act ctc atg agc tgg cag ctg tgc ctg agg atg acc atg 432
Arg Tyr Pro Thr Leu Met Ser Trp Gln Leu Cys Leu Arg Met Thr Met
130 135 140tcg tgt tgg ctc ctg ggt gca gct gac ggg ctc ctg cag gct gtt gtt 480
Ser Cys Trp Leu Leu Gly Ala Ala Asp Gly Leu Leu Gln Ala Val Val
145 150 155 160acc ctg agc ttc cca tat tgt ggt gca cac gag atc gat cac ttc ttc 528
Thr Leu Ser Phe Pro Tyr Cys Gly Ala His Glu Ile Asp His Phe Phe
165 170 175tgc gag acc ccc gtg ctg gtg cgt ttg gct tgt gct gac act tca gtc 576
Cys Glu Thr Pro Val Leu Val Arg Leu Ala Cys Ala Asp Thr Ser Val
180 185 190ttc gaa aac gcc atg tac atc tgc tgt gtg tta atg ctc ctg gtc ccc 624
Phe Glu Asn Ala Met Tyr Ile Cys Cys Val Leu Met Leu Leu Val Pro
195 200 205

ttt tcc ctc atc ctg tcc tcc tat ggt ctc atc ctc gct gct gtt ctg 672
 Phe Ser Leu Ile Leu Ser Ser Tyr Gly Leu Ile Leu Ala Ala Val Leu
 210 215 220
 cac atg cgc tct aca gaa gcc cgc aag aag gcc ttt gcc acc tgc tct 720
 His Met Arg Ser Thr Glu Ala Arg Lys Lys Ala Phe Ala Thr Cys Ser
 225 230 235 240
 tca cat gtg gct gtg gtg gga ctc ttt tat gga gct gcc att ttt acc 768
 Ser His Val Ala Val Val Gly Leu Phe Tyr Gly Ala Ala Ile Phe Thr
 245 250 255
 tat atg aga ccc aaa tcc cat agg tcc act aac cat gac aag gtt gtg 816
 Tyr Met Arg Pro Lys Ser His Arg Ser Thr Asn His Asp Lys Val Val
 260 265 270
 tca gcc ttc tat act atg ttc acc cct tta cta aac ccc ctc atc tac 864
 Ser Ala Phe Tyr Thr Met Phe Thr Pro Leu Leu Asn Pro Leu Ile Tyr
 275 280 285
 agt gtg aag aac agt gag gtg aag gga gcc ctg aaa cgg tgg ctg ggg 912
 Ser Val Lys Asn Ser Glu Val Lys Gly Ala Leu Lys Arg Trp Leu Gly
 290 295 300
 acg tgt gta aac ata aaa cac cag caa aat gag gcc cac agg tca aga 960
 Thr Cys Val Asn Ile Lys His Gln Gln Asn Glu Ala His Arg Ser Arg
 305 310 315 320
 tga 963

<210> 542
 <211> 320
 <212> PRT
 <213> Homo Sapiens

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 20 25 30
 Val Leu Thr Ser Leu Phe Gly Asn-Ser Leu Met Ile Leu Leu Ile His
 35 40 45
 Trp Asp His Arg Leu His Thr Pro Met Tyr Phe Leu Leu Ser Gln Leu
 50 55 60
 Ser Leu Met Asp Met Met Leu Val Ser Thr Thr Val Pro Lys Met Ala
 65 70 75 80
 Ala Asp Tyr Leu Thr Gly Ser Lys Ala Ile Ser Arg Ala Gly Cys Gly
 85 90 95

Val Gln Ile Phe Phe Leu Pro Thr Leu Gly Gly Gly Glu Cys Phe Leu
 100 105 110

Leu Ala Ala Met Ala Tyr Asp Arg Tyr Ala Ala Val Cys His Pro Leu
 115 120 125

Arg Tyr Pro Thr Leu Met Ser Trp Gln Leu Cys Leu Arg Met Thr Met
 130 135 140

Ser Cys Trp Leu Leu Gly Ala Ala Asp Gly Leu Leu Gln Ala Val Val
 145 150 155 160

Thr Leu Ser Phe Pro Tyr Cys Gly Ala His Glu Ile Asp His Phe Phe
 165 170 175

Cys Glu Thr Pro Val Leu Val Arg Leu Ala Cys Ala Asp Thr Ser Val
 180 185 190

Phe Glu Asn Ala Met Tyr Ile Cys Cys Val Leu Met Leu Leu Val Pro
 195 200 205

Phe Ser Leu Ile Leu Ser Ser Tyr Gly Leu Ile Leu Ala Ala Val Leu
 210 215 220

His Met Arg Ser Thr Glu Ala Arg Lys Lys Ala Phe Ala Thr Cys Ser
 225 230 235 240

Ser His Val Ala Val Val Gly Leu Phe Tyr Gly Ala Ala Ile Phe Thr
 245 250 255

Tyr Met Arg Pro Lys Ser His Arg Ser Thr Asn His Asp Lys Val Val
 260 265 270

Ser Ala Phe Tyr Thr Met Phe Thr Pro Leu Leu Asn Pro Leu Ile Tyr
 275 280 285

Ser Val Lys Asn Ser Glu Val Lys Gly Ala Leu Lys Arg Trp Leu Gly
 290 295 300

Thr Cys Val Asn Ile Lys His Gln Gln Asn Glu Ala His Arg Ser Arg
 305 310 315 320

<210> 543

<211> 933

<212> DNA

<213> Homo Sapiens

<220>
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 Leu Ser Glu Gln Pro Glu Leu Gln Leu Arg Leu Phe Leu Leu Phe Leu
 20 25 30
 gga atc tgt gtg gtc aca gtg gtg ggc aac ttg ggc atg atc aca ctg 144
 Gly Ile Cys Val Val Thr Val Val Gly Asn Leu Gly Met Ile Thr Leu
 35 40 45
 att ggg ctc agt tct cac ctg cac aca cct atg tac tat ttc ctc agc 192
 Ile Gly Leu Ser Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Ser
 50 55 60
 agt ctg tcc ttc att gac ttc tgc cat tcc act gtc att acc cct aag 240
 Ser Leu Ser Phe Ile Asp Phe Cys His Ser Thr Val Ile Thr Pro Lys
 65 70 75 80
 atg ctg gtg aac ttt gcg aca gag aag aac atc atc tcc tac cct gaa 288
 Met Leu Val Asn Phe Ala Thr Glu Lys Asn Ile Ile Ser Tyr Pro Glu
 85 90 95
 tgc atg gct cag ctc tat tta ttc agt att ttt gct att gca gag tgt 336
 Cys Met Ala Gln Leu Tyr Leu Phe Ser Ile Phe Ala Ile Ala Glu Cys
 100 105 110
 cac atg ttg gct gca atg gcg tat gac tgt tat gtt gcc atc tgc agc 384
 His Met Leu Ala Ala Met Ala Tyr Asp Cys Tyr Val Ala Ile Cys Ser
 115 120 125
 ccc ttg ctg tac aat gtc atc atg tcc tat cac cgc tgc ttc tgg ctc 432
 Pro Leu Leu Tyr Asn Val Ile Met Ser Tyr His Arg Cys Phe Trp Leu
 130 135 140
 aca gtg gga gtt tac att tta ggc atc ctt gga tct aca att cat acc 480
 Thr Val Gly Val Tyr Ile Leu Gly Ile Leu Gly Ser Thr Ile His Thr
 145 150 155 160
 agt ttt atg ttg aga ctc ttt ttg tgc aag act aat gtg att aac cat 528
 Ser Phe Met Leu Arg Leu Phe Leu Cys Lys Thr Asn Val Ile Asn His
 165 170 175
 tat ttt tgt gat ctt ttc cct ctc ttg ggg ctc tcc tgc tcc agc acc 576
 Tyr Phe Cys Asp Leu Phe Pro Leu Leu Gly Leu Ser Cys Ser Ser Thr
 180 185 190
 tac atc aat gaa tta ctg gtt ctg gtc ttg agt gca ttt aac atc ctg 624
 Tyr Ile Asn Glu Leu Leu Val Leu Val Leu Ser Ala Phe Asn Ile Leu
 195 200 205
 atg cct gcc tta acc atc ctt gct tct tac atc ttt atc att gcc agc 672
 Met Pro Ala Leu Thr Ile Leu Ala Ser Tyr Ile Phe Ile Ile Ala Ser

210	215	220	
atc ctc cgc att cac tcc act gag ggc agg tcc aaa gcc ttt agc act			720
Ile Leu Arg Ile His Ser Thr Glu Gly Arg Ser Lys Ala Phe Ser Thr			
225	230	235	240
tgc agc tcc cac atc ttg gct gtt gct gtt ttc ttt gga tct gca gca			768
Cys Ser Ser His Ile Leu Ala Val Ala Val Phe Phe Gly Ser Ala Ala			
245	250		255
ttc atg tac ctg cag cca tca tct gtc agc tcc atg gac cag agg aaa			816
Phe Met Tyr Leu Gln Pro Ser Ser Val Ser Ser Met Asp Gln Arg Lys			
260	265		270
gtg tgc tct gtg ttt tat act act att gtg ccc atg ctg aac ccc ctg			864
Val Ser Ser Val Phe Tyr Thr Thr Ile Val Pro Met Leu Asn Pro Leu			
275	280		285
atc tac agc ctg agg aat aaa gat gtc aaa ctt gcc gtg aag aaa att			912
Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Leu Ala Val Lys Lys Ile			
290	295	300	
ctg cat cag aca gca tgt taa			933
Leu His Gln Thr Ala Cys			
305	310		

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 <212> PRT
 <213> Homo Sapiens

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Gly Ile Cys Val Val Thr Val Val Gly Asn Leu Gly Met Ile Thr Leu
 35 40 45

Ile Gly Leu Ser Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Ser
 50 55 60

Ser Leu Ser Phe Ile Asp Phe Cys His Ser Thr Val Ile Thr Pro Lys
 65 70 75 80

Met Leu Val Asn Phe Ala Thr Glu Lys Asn Ile Ile Ser Tyr Pro Glu
 85 90 95

Cys Met Ala Gln Leu Tyr Leu Phe Ser Ile Phe Ala Ile Ala Glu Cys
 100 105 110

His Met Leu Ala Ala Met Ala Tyr Asp Cys Tyr Val Ala Ile Cys Ser
 115 120 125

Pro Leu Leu Tyr Asn Val Ile Met Ser Tyr His Arg Cys Phe Trp Leu
 130 135 140

Thr Val Gly Val Tyr Ile Leu Gly Ile Leu Gly Ser Thr Ile His Thr
 145 150 155 160

Ser Phe Met Leu Arg Leu Phe Leu Cys Lys Thr Asn Val Ile Asn His
 165 170 175

Tyr Phe Cys Asp Leu Phe Pro Leu Leu Gly Leu Ser Cys Ser Ser Thr
 180 185 190

Tyr Ile Asn Glu Leu Leu Val Leu Val Leu Ser Ala Phe Asn Ile Leu
 195 200 205

Met Pro Ala Leu Thr Ile Leu Ala Ser Tyr Ile Phe Ile Ile Ala Ser
 210 215 220

Ile Leu Arg Ile His Ser Thr Glu Gly Arg Ser Lys Ala Phe Ser Thr
 225 230 235 240

Cys Ser Ser His Ile Leu Ala Val Ala Val Phe Phe Gly Ser Ala Ala
 245 250 255

Phe Met Tyr Leu Gln Pro Ser Ser Val Ser Ser Met Asp Gln Arg Lys
 260 265 270

Val Ser Ser Val Phe Tyr Thr Thr Ile Val Pro Met Leu Asn Pro Leu
 275 280 285

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 290 295 300

Leu His Gln Thr Ala Cys
 305 310

<210> 545
 <211> 936
 <212> DNA
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cta aca gag aag tca gag cta cag ctg ccc ctc ttc ctc gtc ttc ctg 96
Leu Thr Glu Lys Ser Glu Leu Gln Leu Pro Leu Phe Leu Val Phe Leu
20 25 30
gga atc tat gta gtc aca gtg ctg ggg aac ctg ggc atg atc aca ctg 144
Gly Ile Tyr Val Val Thr Val Leu Gly Asn Leu Gly Met Ile Thr Leu
35 40 45
att ggg ctc agt tct cac ctg cac aca cct atg tac tgt ttc ctc agc 192
Ile Gly Leu Ser Ser His Leu His Thr Pro Met Tyr Cys Phe Leu Ser
50 55 60
agt ctg tcc ttc att gac ttc tgc cat tcc act gtc att acc cct aag 240
Ser Leu Ser Phe Ile Asp Phe Cys His Ser Thr Val Ile Thr Pro Lys
65 70 75 80
atg ctg gtg aac ttt gtg aca gag aag aac atc atc tcc tac cct gaa 288
Met Leu Val Asn Phe Val Thr Glu Lys Asn Ile Ile Ser Tyr Pro Glu
85 90 95
tgc atg act cag ctc tac ttc ttc ctc gtt ttt gct att gca gag tgt 336
Cys Met Thr Gln Leu Tyr Phe Phe Leu Val Phe Ala Ile Ala Glu Cys
100 105 110
cac atg ttg gct gca atg gca tat gac ggc tac gtg gcc atc tgt agc 384
His Met Leu Ala Ala Met Ala Tyr Asp Gly Tyr Val Ala Ile Cys Ser
115 120 125
ccc ttg ctg tac agc atc atc ata tcc aat aag gct tgc ttt tct ctg 432
Pro Leu Leu Tyr Ser Ile Ile Ile Ser Asn Lys Ala Cys Phe Ser Leu
130 135 140
att tta gtg gtg tat gta ata ggc ctg att tgt gcg tca gct cat ata 480
Ile Leu Val Val Tyr Val Ile Gly Leu Ile Cys Ala Ser Ala His Ile
145 150 155 160
ggc tgt atg ttt agg gtt caa ttc tgc aaa ttt gat gtg atc aac cat 528
Gly Cys Met Phe Arg Val Gln Phe Cys Lys Phe Asp Val Ile Asn His
165 170 175
tat ttc tgt gat ctt att tct atc ttg aag ctc tcc tgt tct agt act 576
Tyr Phe Cys Asp Leu Ile Ser Ile Leu Lys Leu Ser Cys Ser Ser Thr
180 185 190
tac att aat gag tta ctg att tta atc ttt agt gga att aac atc ctt 624
Tyr Ile Asn Glu Leu Leu Ile Leu Ile Phe Ser Gly Ile Asn Ile Leu
195 200 205
gtc ccc agc ctg acc atc ctc agc tct tac atc ttc atc att gcc agc 672
Val Pro Ser Leu Thr Ile Leu Ser Ser Tyr Ile Phe Ile Ile Ala Ser
210 215 220
atc ctc cgc att cgc tac act gag ggc agg tcc aaa gcc ttc agc act 720
Ile Leu Arg Ile Arg Tyr Thr Glu Gly Arg Ser Lys Ala Phe Ser Thr

225	230	235	240	
tgc agc tcc cac atc tgc gct gtt tct gtt ttc ttt ggg tct gca gca				768
Cys Ser Ser His Ile Ser Ala Val Ser Val Phe Phe Gly Ser Ala Ala	245	250	255	
ttc atg tac ctg cag cca tca tct gtc agc tcc atg gac cag ggg aaa				816
Phe Met Tyr Leu Gln Pro Ser Ser Val Ser Ser Met Asp Gln Gly Lys	260	265	270	
gtg tcc tct gtg ttt tat act att gtt gtg ccc atg ctg aac ccc ctg				864
Val Ser Ser Val Phe Tyr Thr Ile Val Val Pro Met Leu Asn Pro Leu	275	280	285	
atc tac agc ctg agg aat aaa gat gtc cac gtt gcc ctg aag aaa acg				912
Ile Tyr Ser Leu Arg Asn Lys Asp Val His Val Ala Leu Lys Lys Thr	290	295	300	
cta ggg aaa aga aca ttc tta tga				936
Leu Gly Lys Arg Thr Phe Leu	305	310		
<210>	546			
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Leu Thr Glu Lys Ser Glu Leu Gln Leu Pro Leu Phe Leu Val Phe Leu	20	25	30	
Gly Ile Tyr Val Val Thr Val Leu Gly Asn Leu Gly Met Ile Thr Leu	35	40	45	
Ile Gly Leu Ser Ser His Leu His Thr Pro Met Tyr Cys Phe Leu Ser	50	55	60	
Ser Leu Ser Phe Ile Asp Phe Cys His Ser Thr Val Ile Thr Pro Lys	65	70	75	80
Met Leu Val Asn Phe Val Thr Glu Lys Asn Ile Ile Ser Tyr Pro Glu	85	90	95	
Cys Met Thr Gln Leu Tyr Phe Phe Leu Val Phe Ala Ile Ala Glu Cys	100	105	110	
His Met Leu Ala Ala Met Ala Tyr Asp Gly Tyr Val Ala Ile Cys Ser	115	120	125	

Pro Leu Leu Tyr Ser Ile Ile Ile Ser Asn Lys Ala Cys Phe Ser Leu
130 135 140

Ile Leu Val Val Tyr Val Ile Gly Leu Ile Cys Ala Ser Ala His Ile
145 150 155 160

Gly Cys Met Phe Arg Val Gln Phe Cys Lys Phe Asp Val Ile Asn His
165 170 175

Tyr Phe Cys Asp Leu Ile Ser Ile Leu Lys Leu Ser Cys Ser Ser Thr
180 185 190

Tyr Ile Asn Glu Leu Leu Ile Leu Ile Phe Ser Gly Ile Asn Ile Leu
195 200 205

Val Pro Ser Leu Thr Ile Leu Ser Ser Tyr Ile Phe Ile Ile Ala Ser
210 215 220

Ile Leu Arg Ile Arg Tyr Thr Glu Gly Arg Ser Lys Ala Phe Ser Thr
225 230 235 240

Cys Ser Ser His Ile Ser Ala Val Ser Val Phe Phe Gly Ser Ala Ala
245 250 255

Phe Met Tyr Leu Gln Pro Ser Ser Val Ser Ser Met Asp Gln Gly Lys
260 265 270

Val Ser Ser Val Phe Tyr Thr Ile Val Val Pro Met Leu Asn Pro Leu
275 280 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val His Val Ala Leu Lys Lys Thr
290 295 300

Leu Gly Lys Arg Thr Phe Leu
305 310

<210> 547
<211> 906
<212> DNA
<213> Homo sapiens

<220>
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<222> (1) .. (903)
<223>

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gtg gga gtc ctg ggg agc ttc tct gtt ctt ctc cat tat ctc tcc ttt	96
Val Gly Val Leu Gly Ser Phe Ser Val Leu Leu His Tyr Leu Ser Phe	
20 25 30	
tac tgc act ggg tgc agg tta agg tcc aca gat ttg att gtt aag cac	144
Tyr Cys Thr Gly Cys Arg Leu Arg Ser Thr Asp Leu Ile Val Lys His	
35 40 45	
ctg att gta gcc aac ttc tta gct ctc cgc tgt aaa gga gtc ccc cag	192
Leu Ile Val Ala Asn Phe Leu Ala Leu Arg Cys Lys Gly Val Pro Gln	
50 55 60	
aca atg gca gct ttt ggg gtt aga tat ttt ctc aat gct ctt ggg tgc	240
Thr Met Ala Ala Phe Gly Val Arg Tyr Phe Leu Asn Ala Leu Gly Cys	
65 70 75 80	
aaa ctt gtt ttc tat ctc cat aga gtg ggc agg gga gtg tcc att ggc	288
Lys Leu Val Phe Tyr Leu His Arg Val Gly Arg Gly Val Ser Ile Gly	
85 90 95	
acc acc tgc ctc ttg agt gtc ttc cag gtg atc acg gtc agc tcc agg	336
Thr Thr Cys Leu Leu Ser Val Phe Gln Val Ile Thr Val Ser Ser Arg	
100 105 110	
aaa tcc agg tgg gca aaa ctt aaa gag aaa gcc ccc aag cat gtt ggc	384
Lys Ser Arg Trp Ala Lys Leu Lys Glu Lys Ala Pro Lys His Val Gly	
115 120 125	
ttt tct gtt ctc ctg tgc tgg atc gtg tgc atg ttg gta aac atc atc	432
Phe Ser Val Leu Leu Cys Trp Ile Val Cys Met Leu Val Asn Ile Ile	
130 135 140	
ttt ccc atg tat gtg act ggc aaa tgg aac tac aca aac atc aca gtg	480
Phe Pro Met Tyr Val Thr Gly Lys Trp Asn Tyr Thr Asn Ile Thr Val	
145 150 155 160	
aac gag gat ttg gga tac tgt tct ggg gga ggc aac aac aaa atc gca	528
Asn Glu Asp Leu Gly Tyr Cys Ser Gly Gly Asn Asn Lys Ile Ala	
165 170 175	
cag aca ctg cgt gca atg ttg tta tca ttc cct gat gtg ttg tgt ctg	576
Gln Thr Leu Arg Ala Met Leu Leu Ser Phe Pro Asp Val Leu Cys Leu	
180 185 190	
ggg ctc atg ctc tgg gtc agc agc tcc atg gtt tgc ata ctg cac agg	624
Gly Leu Met Leu Trp Val Ser Ser Ser Met Val Cys Ile Leu His Arg	
195 200 205	
cac aag cag cgg gtc cag cac att gat agg agc aat ctc tcc ccc aga	672
His Lys Gln Arg Val Gln His Ile Asp Arg Ser Asn Leu Ser Pro Arg	
210 215 220	
gcc tcc cca gag aac aga gct acg cag agc atc ctc atc ctg gtg agc	720
Ala Ser Pro Glu Asn Arg Ala Thr Gln Ser Ile Leu Ile Leu Val Ser	
225 230 235 240	
acc ttt gtg tct tct tac act ctc tcc tgc ctt ttc caa gtt tgt atg	768
Thr Phe Val Ser Ser Tyr Thr Leu Ser Cys Leu Phe Gln Val Cys Met	

245										250										255										
gct	ctt	ttg	gat	aat	ccc	aat	agt	tta	ctg	gtg	aac	act	tca	gcc	tta		816													
Ala	Leu	Leu	Asp	Asn	Pro	Asn	Ser	Leu	Leu	Val	Asn	Thr	Ser	Ala	Leu															
			260					265					270																	
atg	agt	gta	tgt	ttc	cca	act	ctc	agc	ccc	ttt	gtt	ctc	atg	agc	tgt		864													
Met	Ser	Val	Cys	Phe	Pro	Thr	Leu	Ser	Pro	Phe	Val	Leu	Met	Ser	Cys															
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gac	ccc	agt	gta	tac	agg	ttt	tgt	ttt	gcc	tgg	aaa	aga	tga				906													
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<211> 301																														
<212> PRT																														
<213> Homo sapiens																														
<400> 548																														
Met	Ala	Ser	Arg	Tyr	Val	Ala	Val	Gly	Met	Ile	Leu	Ser	Gln	Thr	Val															
1				5					10					15																
Val	Gly	Val	Leu	Gly	Ser	Phe	Ser	Val	Leu	Leu	His	Tyr	Leu	Ser	Phe															
			20					25					30																	
Tyr	Cys	Thr	Gly	Cys	Arg	Leu	Arg	Ser	Thr	Asp	Leu	Ile	Val	Lys	His															
		35					40					45																		
Leu	Ile	Val	Ala	Asn	Phe	Leu	Ala	Leu	Arg	Cys	Lys	Gly	Val	Pro	Gln															
	50					55					60																			
Thr	Met	Ala	Ala	Phe	Gly	Val	Arg	Tyr	Phe	Leu	Asn	Ala	Leu	Gly	Cys															
65					70					75				80																
Lys	Leu	Val	Phe	Tyr	Leu	His	Arg	Val	Gly	Arg	Gly	Val	Ser	Ile	Gly															
			85						90					95																
Thr	Thr	Cys	Leu	Leu	Ser	Val	Phe	Gln	Val	Ile	Thr	Val	Ser	Ser	Arg															
			100					105					110																	
Lys	Ser	Arg	Trp	Ala	Lys	Leu	Lys	Glu	Lys	Ala	Pro	Lys	His	Val	Gly															
		115					120					125																		
Phe	Ser	Val	Leu	Leu	Cys	Trp	Ile	Val	Cys	Met	Leu	Val	Asn	Ile	Ile															
		130				135					140																			
Phe	Pro	Met	Tyr	Val	Thr	Gly	Lys	Trp	Asn	Tyr	Thr	Asn	Ile	Thr	Val															
145					150					155				160																

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Asn Glu Asp Leu Gly Tyr Cys Ser Gly Gly Gly Asn Asn Lys Ile Ala
165 170 175

Gln Thr Leu Arg Ala Met Leu Leu Ser Phe Pro Asp Val Leu Cys Leu
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His Lys Gln Arg Val Gln His Ile Asp Arg Ser Asn Leu Ser Pro Arg
210 215 220

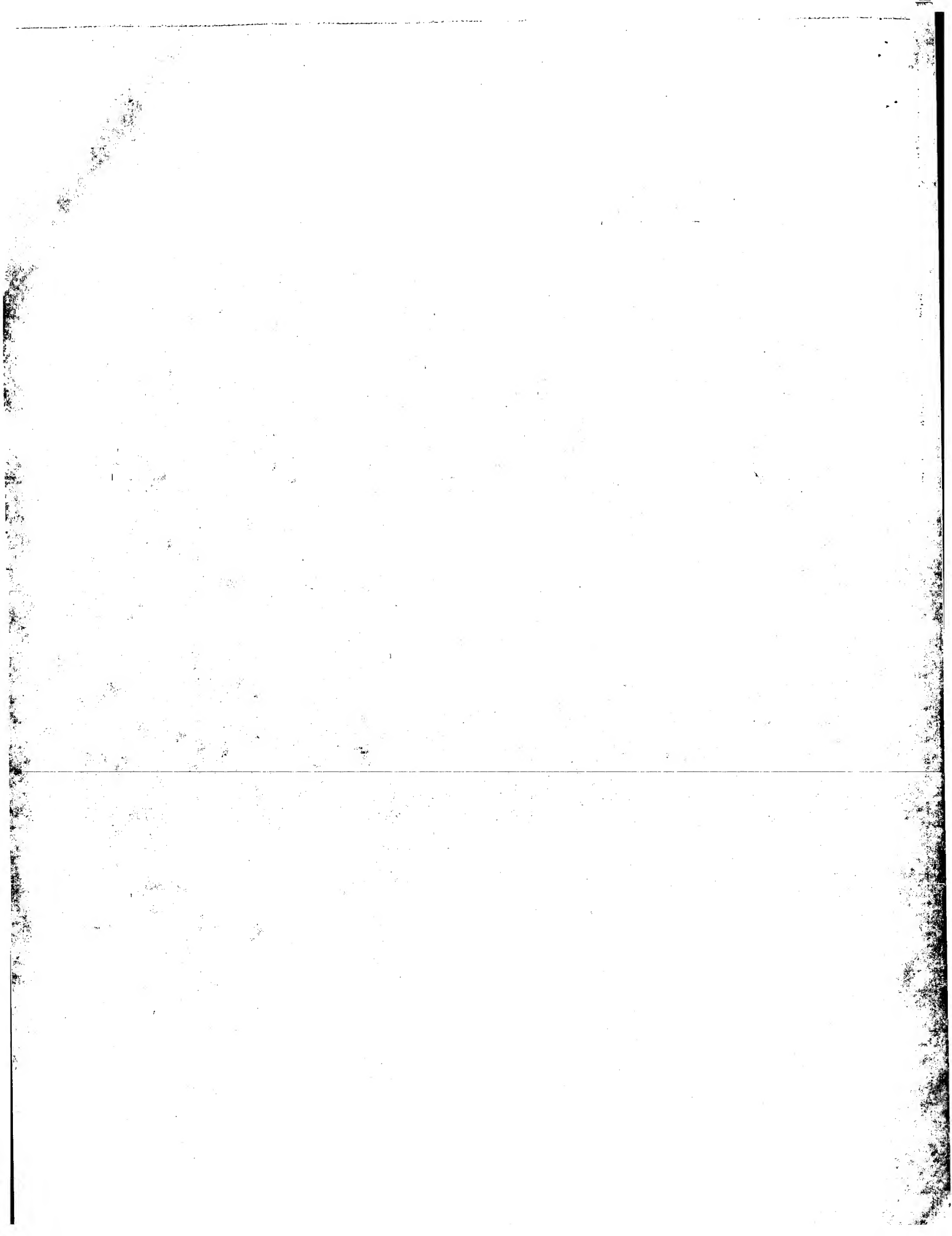
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Ala Leu Leu Asp Asn Pro Asn Ser Leu Leu Val Asn Thr Ser Ala Leu
260 265 270

Met Ser Val Cys Phe Pro Thr Leu Ser Pro Phe Val Leu Met Ser Cys
275 280 285

Asp Pro Ser Val Tyr Arg Phe Cys Phe Ala Trp Lys Arg
290 295 300



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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: OLFACTORY AND PHEROMONES G-PROTEIN COUPLED RECEPTORS

(57) Abstract: The present invention is related to an olfactory or pheromone G-protein coupled receptor having an amino acid sequence as set forth in the sequence SEQ ID NO. 2.

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INTERNATIONAL SEARCH REPORT

In Application No
PCT/BE 01/00162A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C07K14/72 C12N15/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07K C12N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

WPI Data, PAJ, EPO-Internal, EMBL

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X,P	WO 01 57085 A (INCYTE GENOMICS INC ;YUE HENRY (US); AU YOUNG JANICE (US); BAUGHN) 9 August 2001 (2001-08-09) abstract Sequence Id.No.13 ---	1-3,5-7, 9
X,P	EP 1 096 008 A (PFIZER LTD ;PFIZER (US)) 2 May 2001 (2001-05-02) abstract page 36 claim 22 ----- -/--	1-3,5-7, 9

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
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T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

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G document member of the same patent family

Date of the actual completion of the international search

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Authorized officer

Panzica, G

INTERNATIONAL SEARCH REPORT

Int. Application No.
PCT/BE 01/00162

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X,P	DATABASE EMBL 'Online! EMBO, Heidelberg, DE; 1 June 2001 (2001-06-01) WANG Y-G, GONG L: "Cloning and characterization of FKSG46, a novel gene located on human chromosome 16" retrieved from TREMBL Database accession no. Q9BXE9 XP002207010 abstract	1-3,5
A	--- WO 00 06593 A (LINDEMEIER JUERGEN ;ADLER JON ELLIOTT (US); UNIV CALIFORNIA (US);) 10 February 2000 (2000-02-10) abstract	1-3,5-7, 9
A	--- WO 94 05695 A (UNIV NEW YORK) 17 March 1994 (1994-03-17) abstract -----	1-3,5,7, 9

Form PCT/ISA/210 (continuation of second sheet) (July 1992)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Present claims 1-3 5-7, 9 and dependent ones, relate to an extremely large number of possible compounds, namely all the possible sequences sharing a percentage of identity up to 95% with the claimed sequences. Support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT is to be found, however, for only one given sequence for the compounds claimed. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Consequently, the search has been carried out for those parts of the claims which appear to be supported and disclosed, namely those parts relating to the compound as defined by Seq.Id.No. 1 and 2 (respectively DNA and amino acid sequences).

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/BE 01/00162

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☒ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

Int'l Application No

PCT/BE 01/00162

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0157085	A	09-08-2001	AU 3476601 A WO 0157085 A2	14-08-2001 09-08-2001
EP 1096008	A	02-05-2001	EP 1096008 A2 JP 2001245673 A	02-05-2001 11-09-2001
WO 0006593	A	10-02-2000	AU 5324199 A BR 9912437 A CN 1318068 T EP 1100811 A1 NO 20010320 A WO 0006593 A1 US 6383778 B1	21-02-2000 25-09-2001 17-10-2001 23-05-2001 28-03-2001 10-02-2000 07-05-2002
WO 9405695	A	17-03-1994	AU 4855393 A WO 9405695 A1 US 5508384 A	29-03-1994 17-03-1994 16-04-1996

Form PCT/SA/210 (patent family annex) (July 1992)